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Research Paper

Perceptions of Medical Professionals on the Recurrence of Cholera in Baidoa District, Bay Region, South-West State of Somalia (SWSS)

Sharif Aymoy-Abdinor[*1, 4], Mohamed Salad Ahmed[1, 4], Mohamed Ibrahim Mohamed[1], Abdirizak Ali Abdirahman[1], Ubah Ali Ahmed[1], Adam Mohamed Nur Saman[1, 3], Abdullahi Hassan Hussein Shegow[1, 3, 4], Adan Yare Hajir[1, 3, 4], Mohamed Aweys[2, 3], Mohamud Abukar[1, 3]

1. Faculty of Medicine & Health Sciences, University of Southern Somalia, Baidoa, SWSS
2. Faculty of Social Sciences & Humanities, University of Southern Somalia, Baidoa, SWSS
3. Hakaba Institute for Research & Training, Baidoa, SWSS
4. Bay Regional Hospital, Baidoa, SWSS

ABSTRACT

Introduction: *In Somalia, cholera is feared as one among the deadliest diseases that spread in the country. In the district of Baidoa in Bay Region, South-West State of Somalia, a large number of IDPs from the rural area, other districts, and neighboring regions are hosted. The IDP camps are described to be in undesirable condition. Baidoa itself, as a city and district, has not had enough preparation to accommodate the large influx of migrants it has experienced over the past years. Under this situation, what many believed to be the worst cholera epidemic has struck the district in 2017, causing a major outbreak and claiming more lives than previous outbreaks.*

Objective: *The objective of the study is to highlight some of the causes of cholera in Baidoa from the perceptions of some of the medical personnel who had participated in the treatment of the cholera epidemic during the operation to control the outbreak.*

Method: *The study benefits from a triangulation of quantitative and qualitative methods of research for data collection and analysis of responses from selected 20 male and female medical professionals who participated in the emergency of the cholera epidemic of 2017 in Baidoa district, SWSS. Results are illustrated in tables by furnishing details in frequency and percentage as well as presenting direct quotes of the respondents.*

Results: *Poor sanitation is blamed unanimously by 100% for the outbreak. Similarly, shortage or lack of water is believed by 85% of respondents to be among the factors behind the outbreak while lack of awareness returned 95% and a highly possible cause. Overflow or increase of IDPs in Baidoa district and its environs represents the perception of 80% of the respondent medical professionals as a contributory factor to the outbreak of cholera.*

Conclusion: *Several factors have been identified as causes behind the recurrence of the cholera epidemic in the district of Baidoa. While some of these are natural, others are man-made factors which could be addressed easily. There is need to increase preventive measures and preparedness for an outbreak by initially targeting improvement of sanitation through the creation of awareness and availability of adequate clean drinking water.*

KEYWORDS: *Baidoa, Bay region, cholera epidemic, cholera outbreak, healthcare, South-West State of Somalia*

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I. INTRODUCTION

Background to the Somali Health System

Somalia did not have a strong health system before and even during the colonial era, although very few health centers were constructed in the country during the British colonial administration in northern Somalia and Italian colonial administration in Southern Somalia. After independence, the successive civilian regimes added

very few health facilities to the existing ones although these were still insufficient to cover the health needs of the citizens. The health facilities that have been built during the colonial administration included the current facility renamed Bay Regional Hospital, which was built in 1933 (discussion in Baidoa with the deputy director of Bay Regional Hospital, August 2020). As the Deputy Director explained, more health facilities of different sizes were built in the country only after the military government led by General Mohamed Siad Barre took over power in October 1969 in a bloodless coup d'état.

The military junta set up most of the health clinics in the country today, although many people in rural Somalia still continued treating sick people by using their traditional methods. For example, a child with diarrhea who had signs and symptoms of severe dehydration was treated with an indigenous medicine known as "*dhay*". This traditional herbal treatment is prepared by crashing and grinding the leaves of a certain tree, mixing it with water and little oil, and then spreading it on the head of the patient. Also, the same herbal mixture would be diluted with more water so the patient could use it for drinking for several days. Although medical doctors, medical scientists and other skeptics might think this would do nothing for the sick children, whether applied on the head or consumed orally, the practice is a reality and common even today among rural dwellers who believe in traditional/herbal medicine.

Despite the possible controversy, the concoction at least served the psychological feeling and well-being of the sick and relatives around them. Notwithstanding that, there was noticeable improvement in the health system and initiatives to address people's lack of understanding of the modern healthcare system and related issues. However, after ruling the country for about 21 years, the military government collapsed in January 1991 in a devastating civil war that led to the disappearance of the national health system network and the entire provision of public service.

State Collapse and the Situation of Baidoa during the Civil War

In this period of state collapse, warlords became the leaders of armed clan militias and the areas they conquered. As a result, many people lost their lives and a lot of public and private property was destroyed or looted by the militia rogues. Most of the armed militias and their relatives, who mostly had hailed from rural villages and towns, occupied public property such as schools and government buildings. They also destroyed large volumes of valuable public documents in state archives and confiscated private property including houses, stores, farms, and vehicles. Since the period of state collapse in early 1991, Somalia experienced one of the worst moments of its time and the highest death rates, particularly the citizens of Bay region and the neighboring areas mostly settled by the communities known as the Digil-Mirifle, an alliance of various communities from diverse ethnic backgrounds that have lived together harmoniously.

Due to its geographical location, Baidoa was crisscrossed by ousted President Mohamed Siad Barre's troops and those of the United Somali Congress (USC). Barre's militia consisted of his Daarood clan family, escaping from the armed militia of the USC of the Hawiye clan pursuing them after Barre was bombarded out the presidency at Villa Somalia. Amid this chaotic situation, the Digil-Mirifle became victims of the clashes between the Hawiye and Daarood warring groups (Kusow, 1993; Eno, 2008). Their property was looted and innocent people were atrociously killed. Many migrated to seek refuge either in more peaceful parts of the country or in neighboring countries like Ethiopia and Kenya. Those who either had means or relatives to support them had migrated to Arabia, Europe, Australia, and America to begin a new and stable life.

The situation of lawlessness has created a leadership gap on the local scene, particularly in Southern Somalia where the war had the main impact in terms of both loss of lives and property. As a consequence of the prevalent lawlessness, warlord Mohamed Farah Aideed, leading his heavily armed clan militia from parts of rural central Somalia, established a dominant control over Bay and the surrounding regions populated by the Digil-Mirifle communities. In effect, the civil war has had a significantly negative impact on the people in this part of the country because of the destruction and overall inefficient health system that was born out of the lawlessness. Because of the civil war, successive bouts of drought, famine, starvation and diseases that followed, Baidoa was named the "city of death". In addition, the city, and the entire region, continued experiencing outbreaks of cholera epidemic.

The absence of government, lack of strong local leadership, and the domination by Mohamed Farah Aideed's armed militia group have had an immense contribution to the poor health situation in the region. For example, one of the problems was that there was not a recognized authority that could manage the hospital. Yet, many people were visiting the facility after injuries from gunshots, explosions, traffic accidents and for the treatment of natural diseases. The responsibility of supplying medicines, paying wages to the health personnel and security staff of the hospital rested on the shoulders of International Non-Governmental Organizations (INGOs). In fact, the MSF, SOS, World Vision and other foreign organizations took the responsibility of caring for the well-being and treatment of the patients by hiring foreign and local medical doctors, nurses, and non health personnel to safeguard the hospital. Some of these organizations also participated in life-saving operations such as food distribution. Later, they re-established the public education system in which many poor

children, who had no means of attending fee-paying schools managed by the private sector under various educational umbrellas, could be educated.

The health system in Baidoa and the whole Bay region started recovering considerably when the citizens regained control of their territory after forming the Rahaweyn Resistance Army (RRA) which militarily engaged and overpowered Aideed's militia group. In the following few years, Bay region together with its neighboring sisterly regions of Lower Shabelle and Bakool formed the South-West State of Somalia (SWSS), which assumed the administrative role of a regional state and established new health facilities in many of the districts and regions that make part of the SWSS. In addition, new private health clinics and hospitals were opened to improve the standard of health. However, the city did not have cholera treatment centers that could provide adequate facilities to deal with an outbreak in terms of clinical diagnosis and treatment of patients.

II. LITERATURE REVIEW

Paucity of Scholarly Work on Baidoa and the SWSS

Paucity of written scholarly resources on cholera in Somalia, and specifically the lack of scholarly research on the epidemic in the context of Baidoa, made the conduct of this research necessary. As a result, this study mainly draws, among other sources, from materials produced by the World Health Organization (WHO) and other UN organs involved in controlling the outbreak of cholera in Somalia and particularly in Baidoa. In some cases, these reports are distinguished according to the months and years of publication. Other sources have been cited too wherever and whenever necessary.

Cholera in a Global View

Cholera is a very serious epidemic that causes death of humans in many parts of the world, especially people in poor and low income countries in Africa, Asia and Latin America. Health experts and international health organizations such as the World Health Organization (WHO) and Medicins Sans Frontieres (MSF) described cholera as a deadly disease. As WHO explains, "Cholera is a diarrheal disease caused by infection of the intestine with the bacterium vibrio *cholerae*, either type O1 or O139." WHO adds that "Both children and adults can be infected" by the epidemic (WHO, 2004, p.7).

According to Medicins Sans Frontieres (MSF), "cholera is a deadly but treatable disease that affects millions worldwide. It often breaks out when there is overcrowding and inadequate access to clean water, rubbish collection and clean toilets" (MSF, 2020). In a detailed elaboration, the WHO, which usually engages high level experts in their respective fields of expertise, explains: "Researchers estimated that each year there are 1.3 million to 4.0 million cases of cholera, and 21 000 to 143 000 deaths worldwide due to cholera. Up to 80% of cases can be successfully treated with oral rehydration solution (ORS). Severe cases will need rapid treatment with intravenous fluids and antibiotics," (WHO, 2019).

A report by Jahan Saulat reveals staggering statistics of the effects of cholera in the world where: "In 2011, a total of 589,854 cholera cases including 7816 cholera deaths were reported from 58 countries, with a case-fatality rate of 1.3%. A total of 838,315 cases belonging to the period 2004–2008 had been notified to the WHO, as compared to 676,651 cases notified from 2000 to 2004. In 2006, 52 countries reported 236,896 cholera cases including 6311 deaths with a case fatality rate of 2.7%," (Jahan Saulat, 2016).

Cholera in Sub-Saharan Africa

Certain researchers look at the bigger picture of Africa as a continent or Sub-Saharan Africa as a region which is listed among the least developed parts of the world and is home to nearly half of the poor people of the world. There is abject poverty in this part of Africa where nearly half of the population lives on less than a dollar a day which is below the poverty line, as stated by the UN index of standard of living. The inclusion of Sub-Saharan Africa among the countries most affected by cholera brings Somalia into the focus as it is part of the Sub-Sahara region. Accordingly, a chapter by Mengel et al. acknowledges:

> In sub- Saharan Africa, cholera occurs mostly in outbreaks of varying size (sic) with a constant threat of widespread epidemics. Between 1970 and 2011, African countries reported 3,221,050 suspected cholera cases to the WHO, representing 46% of all cases reported globally. Sub-Saharan Africa accounted for 86% of reported cases and 99% of deaths worldwide in 2011. Another estimates 1,411,453 cases and 53,632 deaths per year, respectively (50% of 2,836,669 estimated cases and 58.6% of 91490 estimated deaths worldwide). Within Africa half of all cases between 1970 and 2011 were notified from only seven countries: Angola, Democratic Republic of Congo, and Mozambique, Nigeria, Somalia, Tanzania and South Africa, (Mengel et el. 2014).

Cholera in Somalia

Because of the high number of the victims dying from the epidemic, cholera remains a major public health risk in many parts of the world, including the Horn of Africa region and Somalia in particular, since the

seventh cholera pandemic reached Africa in 1970. Estimates suggest: "Worldwide, 844 million people still lack access to even a basic drinking water source, more than 2 billion drink water from sources that are faecally contaminated, and 2.4 billion are without basic sanitation facilities, exposing them to a range of water-related diseases including cholera" (WHO/UNICEF 2017)—thus putting Somalia, particularly Baidoa and its IPD camps, at the heart of the epidemic.

A concern on the cholera epidemic was raised by the Global Task Force on Cholera, which consists of health and medical experts designated to the monitoring of cholera incidents worldwide. According to Global Task Force on Cholera Control: In 2015 more than 170,000 cases and 1300 deaths (CFR: 0.8%) were notified to WHO from 42 countries, of which 41% was reported from Africa, 37% from Asia, and 21% from Hispaniola (Global Task Force on Cholera Control, 2017).

The Horn of Africa has faced regular large outbreaks in recent years where "Over 800 people have died of cholera in Somalia since the beginning of the year [2017]" (Global Task Force on Cholera Control, 2017, p.6**)**. The WHO highlighted reasons in its 2017 report saying, "Major underlying causes of these outbreaks are poor environmental infrastructure, lack of health care services, lack of safe water and sanitation, and increased population movement," which again brings Baidoa into focus (WHO, 2017).

III. METHODS AND DATA

The study uses purposive model of data collection in that data were obtained from 20 medical professionals including medical doctors, nurses, auxiliary nurses, and laboratory technicians (locally termed as 'nurse-lab') working at Bay Regional Hospital and Bayhaaw Hospital, both in Baidoa district. These medical professionals were working during the 2017 outbreak in either of these two focal centers for cholera; although Bayhaaw Hospital later became the facility designated for admission, isolation and treatment of cholera patients. The most important reason for considering specifically to interview these 20 informants was that they had participated either in the operation of the 2017 cholera outbreak or anyone of the other precedent outbreaks that had struck the district of Baidoa.

A structured questionnaire triangulating open-ended and close-ended questions (Hyman and Sierra 2016, pp. 2, 3) was distributed to the informants. The idea of utilizing the mixed method is supported by Kothari (2007), Eno and Dammak (2014), Vanderstoep and Johnson (2009), as well as Jick who recommends it for providing "more complete, holistic, and contextual portrayal of the unit(s) under study," thereby expanding "our understanding by allowing for new or deeper dimensions to emerge" (Jick, 1979, pp. 603-604). Jick's statement is in agreement with Yin's (19094, p. 123) view of investigating a phenomenon by using "multiple sources of evidence." Using triangulation method, some of the questionnaires were self-administered, while others were distributed to the informants and collected later. Because the number of informants was not large, and there were 5 trained data collectors, the informants were given the opportunity to read through the questionnaire and clear any doubts on the questions. The first section of the questionnaire dealt with the personal profile of the respondent before moving to the questions in section two.

Due to the small size of the sample and the manageable volume of the qualitative data, it was easy to classify, categorize and give code phrases to the qualitative responses by considering "whether the category [or code phrase] repeated itself enough times to warrant inclusion of that category in the analysis," (Kusow, 1998, p. 56). In addition, verbatim quoting and verification of the quotes with the respondents was considered as a form of validating the results and analysis of the data. Furthermore, the study presents part of the qualitative data using quantitative analysis tabulated according to frequency of keywords and their percentage.

To follow the principle of good research ethics, the respondents were informed of the scholarly aim and communal significance of the study. The researchers also introduced themselves and their affiliation regarding the purpose of the study. The respondents were informed that participation was voluntary and not compulsory; and that they could decline to answer a question upon their consideration to do so. More significantly, the respondents were assured of confidentiality and anonymity, in that no names would appear in the final report of the study.

IV. ANALYSIS AND DISCUSSION

Respondents by gender

Table1

Gender	Frequency	Percent
Male	12	60%
Female	8	40%
Total	20	100%

The respondents were asked to indicate their gender. As Table 1 illustrates, the respondents consisted of twenty persons including 12 male and 8 female participants. The reason why most of the respondents are men is probably because there are more men than women in most of the health centers, although 40% females is a good number compared to pre-war days when women were much fewer in the workforce. This can be justified from the social transformation the Somali society is experiencing, especially after the civil war, when women became active bread-winners of many families.

It is unlike earlier days when the Somali people traditionally believed that if girls were educated the benefits of their knowledge would go to another family, namely that of the husband's; thus considering boys as more important family members whose support would always remain in the family and therefore more useful than the girls—a cultural concept which is currently eroding. The 40% for females shows the significantly growing participation of women in the different professions, particularly in the health sector, as seen in this study. The number also shows that the study sought the perceptions of both male and female health professionals to collect data from relevant respondents knowledgeable of the phenomenon being studied—an important aspect that strengthens validity by way of triangulation of sources. Observed from another side, gender consciousness contributes to the validity and reliability of the results.

Respondents by age

Table 2

Age	Frequency	Percent
25-34	18	90%
35-44	1	5%
45-54	0	0%
Above 54	1	5%
Total	20	100%

The respondents were offered choices of four age-groups to select from and yielded the results displayed in Table 2. A majority of the respondents, 90% of the total, is between 25-34 years old; while only 1 or 5% is between 35-44 years of age. The study indicates that none of the respondents falls within the age range of 45-54, while only one informant, and equal to 5%, is above 54 years old.

The reason why the respondents of the age group 25-34 are the majority can be attributed to the fact that this is the age group most likely available in the job market, especially in the health sector. The other point is that, despite the youthful age, they participated in the crisis of the last cholera outbreak, which is an advantage to the study. Without doubt, the other age groups also include experienced personnel who worked in the cholera centers and are familiar with the problems that entailed the overall nature of the epidemic.

Respondents by qualification

Table 3

Qualification	Frequency	Percent
Diploma	9	45%
Bachelor	9	45%
Master	0	0%
PhD	0	0%
Other	2	10%
Total	20	100%

The respondents were asked to declare their qualification level. The findings demonstrated in Table 3 reveal that 45% have a diploma, equal in number and percentage to respondents with a bachelor's degree. That the majority of the respondents hold a diploma or a bachelor's degree means that during the last cholera outbreak of 2017, they were either fresh graduates or senior undergraduates able to follow the trends of the

epidemic as it was challenged to be brought under control. Their qualification strengthens the reliability of the data in the sense that they were engaged professionals aware of the trends of the epidemic both from social and medical perspectives.

Two respondents, equivalent to 10%, responded under the category "other". Most probably, these are one from the older generation of age bracket above 54 and one from the other age categories. It is very likely they have a secondary school leaving certificate supplemented with certificates in skills training in healthcare which are usually offered by international organizations like the International Committee of the Red Cross/Red Crescent Society (ICRC), World Vision, Concern, SOS, as well as the Somali Red Crescent Society (SRCS) and other local NGOs.

On the other hand, it is not very surprising that holders of higher degrees at Master's or PhD are not among the respondents or workers at the health facilities in the study. This is because holders of those higher qualifications target to work in highly attractive and competitive key administrative positions in international non-governmental organizations, state governments, or in the federal government where the salary and bonuses and other professional privileges are on the higher turf. In fact, those higher degree certificates are not easily acquired in Somalia either; as they are costly and people would usually need to travel far abroad to obtain them.

Respondents by designation

Table 4

Designation	Frequency	Percent
Nurse	11	55%
Doctor	4	20%
Auxiliary nurse	3	15%
Lab technician	2	10%
Total	20	100%

As elucidated in Table 4, 55% of the respondents are qualified nurses, 20% are medical doctors, 15% work as auxiliary nurses, while the lab technicians consist of 10% of the interviewees. Table 4 displays the spread of designations of the twenty respondents across four 4 categories of the medical profession as used by most medical facilities here in Baidoa. Each of these respondents has selected his/her designation which corresponds to his/her medical experience working at least during the last outbreak in Baidoa in 2017.

Respondents by years of experience

Table 5

Years	Frequency	Percent
1-5 years	16	80%
6-10 years	2	10%
11-15 years	1	5%
>15 years	1	5%
Total	20	100%

The respondents were asked about their years of experience as displayed in Table 5, confirming that a majority of 80% has a working experience not exceeding 5 years. This is followed by the category of personnel with not more than 10 years of experience which consists of 10%, while the categories of 11-15 years, and over 15 years scored 5% each. The results indicate that most of the interviewees are middle-aged workers, which is why years of experience in the range of 1-5 years is the highest among the respondents in this study. Apart from the higher number of males, the results inform that the respondents have enough experience to have witnessed and worked during the cholera outbreak of 2017, which is of great significance to the current study. That experience, as a factor, gives us the impression that the selected medical personnel are relevant to the study and are qualified enough to provide the needed information. It also supports the credibility of the information they provide, thus making the findings even more reliable.

Perceptions of medical professionals on the causes of cholera and its recurrence in Baidoa

Table 6

Answers of respondents	Frequency	Percent
- Poor sanitation - Increase/movement of IDPs in Baidoa - Lack/shortage of clean water - Lack of awareness	20 16 17 19	100% 80% 85% 95%

The respondents' perceptions were sought regarding the cholera epidemic in Baidoa district and its possible causes. The results displayed in Table 6 provide a confirmation of the various factors that could be attributed to have caused the outbreak of the cholera epidemic. Not astonishingly, "poor sanitation" is blamed unanimously by 100% for the outbreak, although water shortage or lack of it scores 85% and below "lack of awareness" which returned 95% but above the category of "increase of IDPs in the district" which gives 80% as a cause of cholera.

In further clarification of the factors, the medical professionals add that "poor sanitation in the district is, in many cases, caused by Isha Baidoa [meaning Isha Valley of Baidoa], which is always very contaminated." As a female respondent explained, "A lot of waste and garbage from the villages near Baidoa is often disposed of by dumping them into the Isha Valley." In addition, the communities near Isha Baidoa always wash their clothes in the Valley—"even clothes with human faeces." Not surprisingly, the IDPs draw water from the contaminated Isha Baidoa Valley because "the water from the wells is expensive for them so they cannot get it easily" as one of the respondents wrote. Therefore, instead of paying for water, they turn to fetching "water from Isha which is very contaminated," and can easily spread diseases to the community. In the same way, and as we mentioned above in this section:

> Children who live near Isha Valley play in Gerbooda, a popular part of Isha, and drink the contaminated water as they swim in it. In this case, the infected children may take the *bacterium vibrio cholerae* home and spread it to other members of the family, to the neighbors and even to their other friends who play with them in their neighborhood. One of the reasons why cholera is recurrent in Baidoa is because of insufficiency of regularly treated water resources.

For instance, "small wells which are located in Baidoa's residential areas can be easily contaminated," medical personnel replied. The reason is, the "wells are not covered" or they are "poorly covered," one of the nurse elaborated. On the same subject, one of the commentators explained, "Animals and other waste materials which are health hazard can easily fall or be thrown into these public wells, causing consumers to be contaminated." Another informant had this to say: "The water supply company is only one, War-Jinnaay Water Company, in Baidoa; so, it is kind of monopoly. It can cut the water supply every time it decides to do so, in order to make more money from the water." In that situation, when the company raises the rates, "many poor consumers may find it expensive and end up using the contaminated water instead, regardless of the risks involved." Another problem with "water contamination can come from the water tanks (whether by vehicle or by donkey) which deliver water to many of the residents during water shortages. This lack of control and treatment of the tanks can contribute to the cause and spread of the disease."

Lack of awareness, as mentioned above, plays a role in the spread of cholera, particularly in overcrowded camps where the IDPs are settled. "Poorly constructed, unhygienic latrines, and improperly used toilets add to the unhealthiness in the camp, especially where there are so many children," a medical personnel stated. When the children and others living in the IDP camps "are not trained or informed enough to protect their environment and observe hygiene in general, it can cause poor sanitation which can easily lead to the outbreak of cholera or other communicable diseases," replied a concerned medical professional. Observing the problem from another side, a respondent says, "There are families from the host community who also draw contaminated water from Isha Baidoa Valley. They suffer from the same effects of contamination and illness, even though they do not live in the IDP camps."

Preparedness for cholera epidemic before an outbreak

Table 7

Respondents' answers	Frequency	Percent
There was not preparedness	20	100%
Total	20	100%

Q 7 focused on preparedness for a cholera outbreak. The respondents were asked to answer this question in order to find out whether there had been any measures made for the preparation of a cholera outbreak since the epidemic was described to be recurrent. Table 7 demonstrates the total number of 20 respondents mentioned the absence of preparedness for cholera outbreak. As one of the respondents explained; "the only preparation, I

mean the running up and down began when the cholera outbreak started in the district." However, mention should be made that "some local NGOs were doing some awareness for the IDPs and the host community during the outbreak," and not before it. The reason for the lack of preparedness can be attributed to the fact that the government of the South-West State of Somalia at the time was still at an embryonic stage, undergoing a structuring program of its various administrative organs. However, one of the medical experts detailed:

> The lack of preparedness can be easily noticed from the fact that there were not test kits for cholera diagnosis in the district of Baidoa and the entire Bay region, if not all over Somalia. For that matter, if suspected cases were found in this area, to curb or control the spread of cholera, the samples were to be taken outside the country for diagnosis. The time span it takes for the analysis and diagnosis gives more opportunity for the epidemic to spread to a larger number of the community. This could make the situation much worse and could complicate and frustrate the process of treatment and recovery of the patient.

Reasons the 2017 cholera outbreak could be the worst in the district of Baidoa

Table 8

Respondents answers	Frequency	Percent
Lack of awareness in the community	20	100%
Inadequate health facilities	20	100%
Lack of preparedness	18	90%
Lack of safe drinking water	15	75%
Hot weather condition	16	80%
Long droughts	15	75%
Patients' late visit to the hospital	14	70%

Table 8 demonstrates the seriousness of the cholera situation from the respondents' perceptions in terms of their 100% unanimity on lack of community awareness and unavailability of sufficient health facilities—hence both being potential contributors towards the aggravated cholera situation and its recurrence in Baidoa. 70% of the 20 respondents highlight patients' delay to the health facilities as another significant factor, despite the inadequacy of the hospitals to deal effectively with the outbreak. Among the major causes was "lack of preparedness" which returned 90% of responses, meaning that its availability would have helped a lot in preventing and containing the outbreak in good time.

The hot weather condition of the summer season was considered by 80% of the informants as a concern while 70% mentioned the long droughts, though natural, have a reason to be blamed as they might have been behind the shortage or lack of safe drinking water which produced a 70% response rate. A combination of these factors might have led many of the victims to consume the contaminated water. The high percentage of agreement on the weather factor suggests the severity of the intolerable conditions of heat; particularly that it was coming after "long droughts" which 70% of the informants perceived was among the contributors to the cholera outbreak of 2017. Because the available water was stagnant and heavily polluted with many different types of garbage and other waste materials from areas neighboring Isha Baidoa Valley, as also discussed under Table 6 above, the people might have drunk the contaminated water and became affected as a result. The number of victims was possibly increased by the habitualized consumption of the infected water.

One of the respondents confirms how "the situation at that time was really very hard for the IDPs as they were not getting food and safe drinking water." In addition to these two basic needs, there was also another contributing factor to the spread, that of "limited number of toilets in IDP camps all of which have made the overall sanitation in the camps much worse than at any other time." Lack of awareness and preparedness earlier than the outbreak is cited too as a causal factor to the widespread of the 2017 cholera outbreak. The respondents highlighted this factor as an issue that was lacking when they mentioned lack of awareness in the community as one of the causes that made the 2017 cholera outbreak in Baidoa the worst among the outbreaks the city had experienced.

Lack of preparedness points a finger at both "officials of the Ministry of Health of the Federal Somali Government and the Ministry of Health of the South-West State of Somalia" of the time. Despite visiting the scene and trying to help address the situation, "Their role of creating early prevention and public awareness and preparedness would have rendered a positive impact to the containment of the epidemic," one of the medical professionals explained. Because a timely awareness campaign and measures of preparedness were lacking, "the epidemic spread, affecting the most vulnerable—among them the IDPs and the poorest among the host community," she commented in dismay.

Availability of preventive measures for an outbreak

Table 9

Responses	Frequency	Percent
No capable preventive mechanism to deal with an outbreak	3	15%
Adequate clean water in the hospitals Improved sanitation in the hospitals Establishment of an emergency medical response team Establishment of waste management team	17	85%
Total	20	100%

The Respondents' perception on the question of prevention has produced two variant groups: one that perceives of preventive measures as non-existent and another that thinks certain measures have been taken to improve the preventive situation. Therefore, whereas 15% of the medical professionals maintained the perception that what has been done as a measure of prevention has no capability to deal with a serious outbreak, their counterparts consisting of a whopping majority of 85% seem to disagree with them, mentioning instead four important issues that have been put in place as part of a preventive strategy aimed to deal with a cholera epidemic.

The question was posed in order to understand whether lessons have been learnt from the previous outbreaks and, based on those lessons, whether preventive mechanisms have been strategically planned and implemented. The idea is that it is important to have preventive plans in place before the occurrence of an outbreak, which approves the case for preparedness. Although the results illustrated in Table 9 play a good role in the prevention of an outbreak of not just cholera but also of other diseases, we can surmise that these are limited only to improvements in the health facilities but not beyond them. Because, a critical analysis of the measures in Table 9 reveals that other than those, the respondents make no mentions of what preventive measures exist at community level and at state level, a matter of great concern which farther extends the debate and discussion over the recurrence of cholera in Baidoa, the South-West State, and in the entire Republic of Somalia.

V. CONCLUSION

This study attempted to highlight a concern over the recurrent cholera epidemic that has struck the residents in the district of Baidoa several times over the years, particularly the last outbreak in the year 2017 which killed hundreds of people. Seeking perceptions of medical professionals who participated in the campaign against the epidemic, the study confirmed that the contaminated water of Isha Baidoa Valley, increase of IDPs in the district and its environs, shortage and/or lack of clean drinking water, poor sanitation, lack of waste control and management, absence of community awareness, and unpreparedness are among the key contributors to the spread of the outbreak. It also demonstrated that the two health authorities at the time, the Health Ministry of the Federal Somali Government and the Health Ministry of the South-West State of Somalia, could have done a better job had they established an emergency team with a capacity to plan and implement the requirements for preventive processes before an outbreak strikes. As a result of the factors discussed and outlined in the findings and discussion of the study, the authors suggest the following recommendations.

VI. RECOMMENDATION

In order to prevent and/or deal with a cholera outbreak, it is necessary to ensure:

- Accessibility of clean water for the IDPs and the host community
- Construction of good latrines/toilets for the IDPs
- Frequent Awareness drives for both the IDPs and the host community
- Organization of professional medical teams to conduct awareness

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