

Containment Strategies and Lessons Learned from AWD/Cholera 2017 Epidemic, the Experience of Somaliland

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Abstract

Background: Cholera remains a global threat to public health and a key indicator of lack of social development, it has a more severe impact in areas where basic environmental infrastructures are disrupted or have been destroyed. There is no surprise that morbidities and mortalities rates are upraising significantly. **Objectives:** To study AWD/Cholera outbreak course in Somaliland, to study containment strategies applied, Identify Gaps, opportunities and lessons learned. **Methodology:** Reviewing and revising National and international AWD/Cholera outbreak progress and surveillance data in Somaliland for the period of January to August 2017, field data collections, household interviewing of victims and populations in affected areas. Meeting international and national officials and technical officers. Revising international nongovernmental organizations technical reports and Specialized UN technical reports. Systematic review of the literature of similar outbreak context using engine search with relevant Key words and selection criteria. **Results:** The study showed that the overall number of AWD/Cholera outbreak cases in Somaliland were reached up to 16668 cases between the period of January 2017 and August 2017 as reported over 6 main territories all over the country, the highest incidence rate were found to be in Togdher area (11753) cases and the lowest in Sahil were 3 cases of AWD/Cholera cases only were reported, overall case fatality rate was (1.8%) about 595 AWD/Chorea cases were died in all outbreak regions and during outbreak time. The study revealed that the outbreak started beginning of 2017, and started to increase significantly from march 2017 and reached its highest peak during June and July 2017 where reporting almost more than 100 cases per week, and started declining during August 2017 reached down to (20) cases per week. about 52% of the AWD/cholera outbreak cases in Somaliland during 2017 were <5 years old and about 48% above than 5 Years old, while 33% of AWD cases were male gender and 47% were female. **Conclusion:** The Somaliland AWD/Cholera outbreak was significantly challenging comparing to quality and quantity of health care system response, major gaps were identified and addressed by WHO led in collaboration with national health authority and other international organization response in containment plan. **Recommendations:** Building capacity of national health care system in terms of manpower, logistics & infrastructure, surveillance and health information, social mobilization and stewardship are highly recommended on long term.

Keywords

Containment Strategies, AWD/Cholera, Somaliland, Epidemic

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1. Introduction

Cholera remains a global threat to public health and a key

indicator of lack of social development. It has a more severe impact in areas where basic environmental infrastructures are disrupted or have been destroyed [1, 2, 3, 4].

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Due to lack of rainfall and water resources, Somalia is now experiencing a famine along with an alarming increase in water-borne diseases, like cholera [5]. Approximately three million people in Somalia currently suffer from food insecurity [6]. In early March, over a period of only 48 hours, 110 Somalis died from starvation and drought-related illnesses [7]. The WHO has estimated that more than half of the country's population (about 6.2 million people) are in desperate need of emergency humanitarian assistance as a result of a lack of clean water). Somalia has had more than 11,000 cases and 269 deaths from cholera so far in 2017 The case fatality rate of this outbreak has reached 2.4% Of the cases reported in February alone, 45.7% were women and 38.8% were children under five years old [8]. The long run instability of the country has led to the continuous deterioration of the sanitation and safe-water infrastructure. only 10 per cent of the rural population and 63 per cent of the urban population has access to improved drinking water It is no strange that acute watery diarrhoea (AWD) and cholera are widely disseminated among children population of Somalia which necessitate focusing of international efforts to help those victims. there is no surprise that morbidities and mortalities rates are upraising significantly. outbreak is frightening, as the people of Somaliland are already weakened by the drought and by lack of food. Drought doesn't just cause thirst, hunger and death – it causes diseases like acute diarrhoea, because people are so desperate for water that they'll drink from heavily contaminated streams or puddles The vulnerable children and adults, already struggling to cope with malnutrition and food insecurity caused in large part by the failure of 2016's two rainy seasons, were struck down by the deadly disease after drinking contaminated water.

- a. During the month of February 2017, the rise in the number of cases of acute watery diarrhoea/cholera was significant – from 3113 cases and 47 deaths in January to 4621 cases and 138 deaths in February.
- b. Acute watery diarrhoea/cholera cases and deaths were reported from 38 districts in the south central region and 4 districts in Puntland. The most affected regions in the south central include Bay, Banadir, Middle Shabelle and Lower Shabelle. In Puntland, the most affected districts include Basasso, Galgdogob, Galkayo and Jiriiban.
- c. Of the 4603 acute watery diarrhoea/cholera cases reported during this reporting month, 45.7% were women, while 38.8% were children under 5 years of age. [9]

The World Health Organization (WHO) has attempted to reduce the impact of AWD through adopting defend intervention strategies, National health care system capacity building (training of health care professionals on standards

cases management), (strengthening patient assessment, categorization and triage system, developing patient developing adequate and effective patient transfer system, and patient referral system for AWD/ non cholera cases. Major gaps has been identified at Infection prevention and control measures. Community social mobilization efforts operating powerfully, Environmental sanitation, adequate safe water supply, hygiene practice at personal, household and environmental level were addressed. the high investing in hand hygiene practice among general population were stressed on, utilization of latrines and many other gaps were accordingly followed. both at health care facilities and at community based level by developing local capacity, and this course which seems to be working. The WHO is focusing their efforts on strengthening coordination between local health actors, early disease detection and training health care workers. This is allowing for a timely response to outbreaks. Nonetheless, the lack of sanitation and safe-water infrastructure will continue to compromise the health of Somalis and promote conditions where cholera and AWD outbreaks are possible, even likely. security alone will not address the health needs of Somalia, a secure environment is a necessary condition for building a health system that can begin to address the many needs of the population. the WHO has recorded a reduced incidence of AWD and are assisting in the establishment of a well-planned, if basic, local health system

strengthening early detection and rapid response systems of which community based surveillance and cross-border alert; [10] setting up coordination mechanisms across the sectors and borders; [11] building capacity on outbreak management; [12] targeted pre-positioning of supplies and [13] preparing communications messages and plans Sustainable[14].

2. Objectives

To study AWD/Cholera outbreak course in Somaliland, to study containment strategies applied, Identify Gaps, opportunities and lessons learned.

3. Methodology

Reviewing and revising National and international AWD/Cholera outbreak progress and s Surveillance data in Somaliland for the period of January to August 2017, field data collections, household interviewing of victims and populations in affected areas. Meeting international and national officials and technical officers. Revising international nongovernmental organizations technical reports and Specialized UN technical reports. Systematic review of the literature of similar outbreak context using engine search with relevant Key words and selection criteria.

4. Results

The study showed that the overall number of AWD/Cholera outbreak cases in Somaliland were reached up to 16668 cases between the period of January 2017 and August 2017 as reported over 6 main territories all over the country, the highest incidence rate were found to be in Togdher area (11753) cases and the lowest in Sahil were 3 cases of AWD/Cholera cases only were reported as shown by table 1, overall case fatality rate was (1.8%) about 595) AWD/Chorea cases were died in all outbreak regions and during outbreak

time. The study revealed that the outbreak started beginning of 2017, and started to increase significantly from march 2017 and reached its highest peak during June and July 2017 where reporting almost more than 100 cases per week, and started declining during August 2017 reached down to(20) cases per week. as appear in the Figure 1. Figure 2 showed that about 52% of the AWD/cholera outbreak cases in Somaliland during 2017 were <5 years old and about 48% above than 5 Years old, while 33% of AWD cases were male gender and 47% were female as reflected by figure 2, 3.

Table 1. Number of cases of AWD/Cholera in Somaliland During 2017 outbreak according to geographical distribution, number of cases and fatality rate.

Region	Aug 2017			8-Aug 2017			Cumulative No. (March 2017 to date)		
	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	CFR%
Awdal	3	0.0	0.0	12	0.0	0.0	1576	10	0.6
Mjeex	5	0.0	0.0	7	0.0	0.0	640	5	0.8
Sahil	0	0.0	0.0	0	0.0	0.0	3	1	33.3
Sanag	0	0.0	0.0	0	0.0	0.0	535	12	2.2
Sool	0	0.0	0.0	0	0.0	0.0	2170	42	1.9
Togdher	7	0.0	0.0	10	0.0	0.0	11753	225	1.9
Total	15	0.0	0.0	29	0.0	0.0	16686	295	1.8

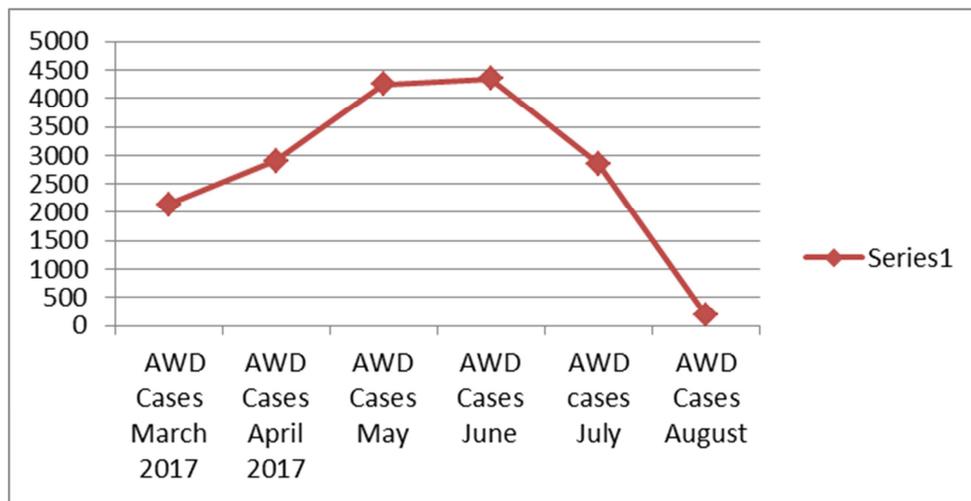


Figure 1. AWD / Cholera outbreak trend in Somali land 2017.

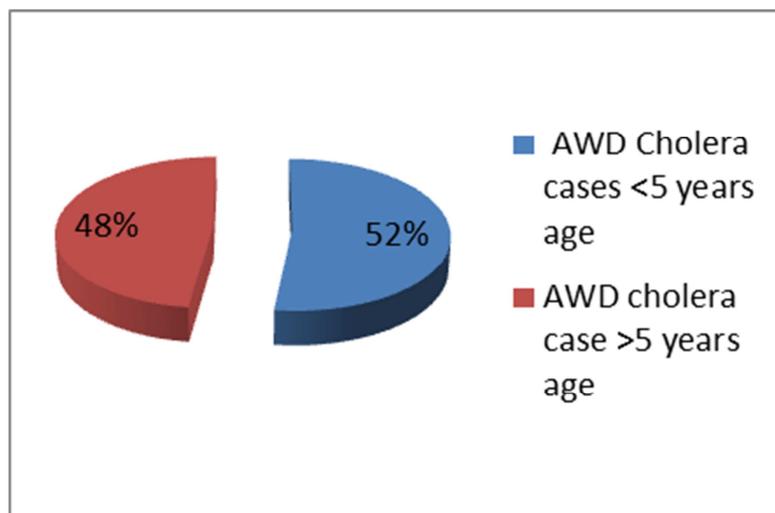


Figure 2. AWD/Cholera cases according to age distribution, Somaliland 2017.

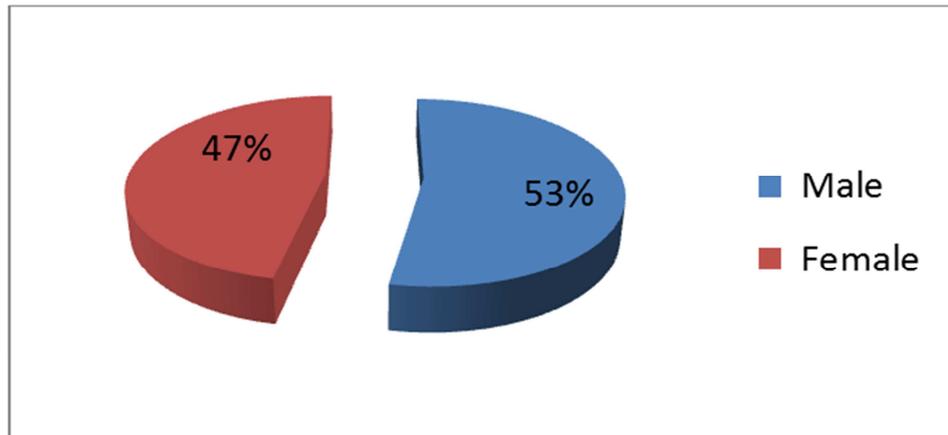


Figure 3. Gender based distribution of AWD/cholera cases/ Somaliland outbreak 2017.

5. Discussions

The current study showed that the greatest risk is among communities, over-populated with poor sanitation, utilizing unsafe drinking-water. This perhaps explains the high proportion of children affected among those surveyed having possibly been exposed to the diarrhoea-causing agents through the use of contaminated water combined with unhygienic practices in food preparation and the disposal of excreta and domestic wastes which comes in similar to many other studies in Tanzania and Nigeria [15, 16]. This study showed that about 52% of the cases were below 5 years old age in contrary to Tanzania study [17] which showed that age distribution is: children under five years (23.9%); adolescents aged 13 to 24 years (23.9%); and adults aged 25 years and above (34.8%). Behaviours related to personal hygiene and food preparation contribute significantly to the occurrence and severity of outbreaks. Health education aimed at behavioural change combined with good surveillance and preparedness, frank reporting and transparent information policy are important in the effective cholera prevention and control as shown by Kind Hauser in 2003. It is in the realization of this that it became imperative to investigate the knowledge, perception, health behaviour and sewage and waste disposal practices among patients with acute watery diarrhoea as risk factors associated with cholera epidemic. Consequently, during the 2010 cholera outbreak in some States in Nigeria, the Emergency Preparedness Response Research Group of the Nigerian Institute of Medical Research was deployed to the affected States to provide cholera research intervention and humanitarian services with the supply of relief materials. The research component of the intervention entailed both laboratory and social epidemiological studies of the epidemic. This paper is based on social epidemiological data generated from two of the States (Bauchi and Gombe) visited in North East Nigeria.

Containment strategies applied in Somaliland outbreak 2017: Situation analysis, gaps identifications and resources allocation and mobilization has been carried out, Infection prevention and control at health care facilities and IPC assessment at community bases level, Wash assessment and effective response, social mobilization, cholera standards cases management for health care workers both clinical and public health professionals, general public health precisions and regulations, Cholera treatment centres, call hotline centres were activated, patient transfer protocol and patient referral protocol were put at place, social mobilizations through different means, mobile team, cholera treatment unit at peripheral level, Multi sectorial coordination taskforces, and strengthening of surveillance and reporting system with continuous and close monitoring).

6. Conclusion

The Somaliland AWD/Cholera outbreak was significantly challenging comparing to quality and quantity of health care system response, major gaps were identified and addressed by WHO led in collaboration with national health authority and other international organization response in containment plan

Recommendations

Building capacity of national health care system in terms of manpower, logistics & infrastructure, surveillance and health information, social mobilization and stewardship are highly recommended to be addressed on long term.

Ethical Issues

Ethical standards were followed adequately.

Conflict of Interest

All the authors do not have any possible conflicts of interest.

References

- [1] World Health Organization (2004). Cholera outbreak: assessing the outbreak response and improving preparedness. Geneva: World Health Organisation. WHO/CDS/CPE/ZFK/2004.4.
- [2] World Health Organization (2010). Weekly epidemiological records: cholera 2009. Geneva: World Health Organ. 31:293-308.
- [3] World Health Organization /UNICEF (2010). Joint Monitoring Programme for Water Supply and Sanitation. Progress on sanitation and drinking-water: 2010 update. Geneva.
- [4] World Health Organization/UNICEF. Zuckerman JN, Rombo L, Fisch A (2007). The true burden and risk of cholera.
- [5] BBC report, <http://www.bbc.com/news/world-africa-39166746>
- [6] CNN report, <http://www.cnn.com/2017/03/04/africa/somalia-drought-deaths/>
- [7] African News report, <http://www.africanews.com/2017/03/05/somalia-drought-causes-110-deaths-in-48-hours/>
- [8] WHO EMRO | Cholera situation in Somalia, February 2017 <http://www.emro.who.int/surveillance-forecasting-response/surveillance-news/cholera-situation-in-somalia-february-2017.html>
- [9] WHO EMRO | Cholera situation in Somalia, February 2017 <http://www.emro.who.int/surveillance-forecasting-response/surveillance-news/cholera-situation-in-somalia-february-2017.html>. Surveillance, forecasting and response | News | Cholera situation in Somalia, February 2017.
- [10] Global Health Atlas, WHO: <http://apps.who.int/globalatlas>
- [11] Ministry of Health Ghana, 1998–2013 cholera data. Missing data for 2003, 2006, 2008 and 2009.
- [12] FEWSNET (Famine Early Warning Systems Network): <http://www.fews.net>
- [13] Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS), 2012: <http://data.unicef.org/water-sanitation/sanitation>.
- [14] Cholera outbreaks investigation reports, Ministry of Health Ghana. 6. WASH and Cholera in Ghana, positioning paper, UNICEF, 2015.
- [15] MEASURE DHS ICF Macro. Oguntoké O, Aboderin OJ, Bankole AM (2009) Nigeria, demographic health survey, Calverton, Maryland, USA.
- [16] Sasaki., 2008, Association of waterborne diseases morbidity pattern and water quality in parts of Ibadan City, Nigeria. Tanzania J. Health Res. 11(4):189-195.
- [17] Adeneye, A. K., Musa, A. Z. I, Oyedéji, K. S., Oladele, D. Ochoga, M., Akinsinde, K. A. Niemogha, M. T., Nwaokorie, F. O., Bamidele, T. A., Brai, B. I., Omonigbehin, E. A., Bamidele, M., Fesobi, T. W., Smith, S. I. and Ujah, I. A. Risk factors associated with cholera outbreak in Bauchi and Gombe States in North East Nigeria, JPHE2016, Vol. 8(11), pp. 286-296.