

Community perspectives regarding preparedness, response and prevention of Ebola Virus Disease amidst COVID-19 pandemic, an exploratory descriptive qualitative study using a community engagement approach in Mbale City

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Abstract

Background: Ebola virus disease (EVD) is a rare and deadly infectious hemorrhagic fever disease. Four of the 6 known Ebola virus species can cause human disease. Since 1976, EVD outbreaks have been recorded sporadically in East, Central, and West Africa. Uganda has experienced 6 documented outbreaks of EVD since 2000 that can be attributed to 3 species of Ebola viruses (Zaire, Sudan, and Bundibugyo). Despite substantial advances in clinical management, the case fatality ratio for EVD remains high, reaching more than 60% for the Zaire Ebola virus in 2018–2020.

Methods. The study followed a descriptive qualitative study design. Data were collected using an interviewer-administered questionnaire with both closed and open-ended questions. Data were analysed using ATLAS Pro.

Results: Our results illustrate the lack of health education in the community among the different categories of people and this comes from an emic perspective. We identified 4 high-level themes and 19 subthemes, (1) Knowledge of Ebola Virus Disease, (2) Prevention of EVD in the community, (3) Preparedness for Ebola Virus Disease, and (4) Community response to Ebola Virus Disease and the final thematic area (4) which included giving first aid, using traditional medicines, and approaching a health facility among others.

Conclusions: With all the available information about the previous outbreaks in Uganda, it is surprising that less effort was made this time round to take local sensibilities and culture into account among other social factors contributing to the poor practices of masses toward the EVD, preparedness, prevention, and response.

Background

Ebola virus disease (EVD) is a rare and deadly infectious hemorrhagic fever disease. Four of the 6 known Ebola virus species can cause human disease [1]. Since 1976, Ebola Virus disease outbreaks have been recorded sporadically in East, Central, and West Africa [2]. Uganda has experienced 6 documented outbreaks of EVD since 2000 that can be attributed to 3 species of Ebola viruses (Zaire, Sudan, and Bundibugyo) [3]. Despite substantial advances in clinical management, the case fatality ratio for Ebola Virus Disease remains high, reaching more than 60% for the Zaire Ebola virus in 2018–2020. The public health response to manage Ebola Virus Disease outbreaks requires substantial resources for coordination, surveillance, laboratory, case management, infection prevention and control, vaccination, risk communication, and community engagement with all key stakeholders [4].

Understanding how community dynamics impact response and prevention is important for developing and implementing effective community engagement activities during Ebola Virus Disease outbreaks and any other outbreaks in the country [5]. The public's perceptions, attitudes, and practices were assessed amidst an emergency during the 2014–2016 Ebola outbreak in West Africa and the 2018–2020 outbreak in the Democratic Republic of the Congo (DRC) [6]. The assessments guided the development and

implementation of evidence-based community engagement strategies and other key interventions to reduce transmission and end the outbreaks [7]. For instance, studies in West Africa provided information to guide culturally acceptable modifications to care-seeking behaviors and burial rituals involving contact with dead bodies, which were critical to containing the outbreak [2]. A few studies related to Ebola Virus Disease have also helped to identify misconceptions that hinder Ebola Virus disease prevention and treatment efforts [7]. In the democratic republic of Congo, surveys and other rapid qualitative assessments similarly informed outbreak response strategies. During the 2018–2020 outbreak, countries bordering DRC also conducted various community-based assessments to inform context-specific preparedness efforts to prevent and respond to the outbreak [8]. This study aimed to explore community perspectives regarding Knowledge of Ebola, preparedness, response, and prevention of Ebola Virus Disease after the COVID-19 pandemic in Mbale City in Eastern Uganda during an ongoing outbreak in the districts of Mubende and Kasanda. To understand the extent of outbreak preparedness in Mbale city, we explored differences in message exposure to various key aspects related to response, prevention, and perceptions towards the utilization of PPE, where they get the PPE from and how they use them. In Mbale City, we prioritized all categories of people within the community regardless of their profession and sources of income.

To inform EVD preparedness in Uganda, we evaluated community perspectives regarding preparedness, response, and prevention of Ebola Virus Disease amidst the COVID-19 pandemic, in Mbale city, Eastern Uganda. Amidst the EVD outbreak, we randomly decided to conduct a community engagement strategy on Ebola to understand the risk perception, and EVD knowledge, attitudes, and prevention practices. Following the outbreak of Ebola in Mubende, Kasanda, and the neighboring districts, the student leadership with support from Seed Global Health conducted a community engagement starting on Ebola to ascertain the practices, readiness, and perception towards Ebola Virus disease among community members in Mbale City, Eastern Uganda.

Objectives

1. To explore the knowledge of Ebola among community members in Mbale city.
2. To find out preparedness and response measures in the community regarding responding to the Ebola Virus Disease outbreak.
3. To understand prevention measures used in the community in case an of Ebola outbreak.



Study Site

The study was conducted in Mbale City. Mbale City is one of the newly approved cities in Uganda. Mbale is a town located in southeastern Uganda. It lies at the western foot of the extinct volcano Mount Elgon (14,178 feet 4,321 metres), 75 miles (120 km) northeast of Jinja. Located in a fertile coffee-growing region, Mbale is an agricultural trade Centre and the site of one of Uganda's principal dairies and regional referral hospitals in Uganda.

Materials and methods

Study Designs

This was a community engagement strategy for Ebola. The student body moved to public places within Mbale City. The study followed a descriptive qualitative design using key informant interviews with various categories of people within the community. They included market vendors, motorcyclists, shop attendants, security officers, street mask sellers, Retail business owners, teachers, Mechanics, and supermarket attendants. Participants had to answer “yes” to three eligibility questions prior to beginning the survey.

Data collection methods and instruments.

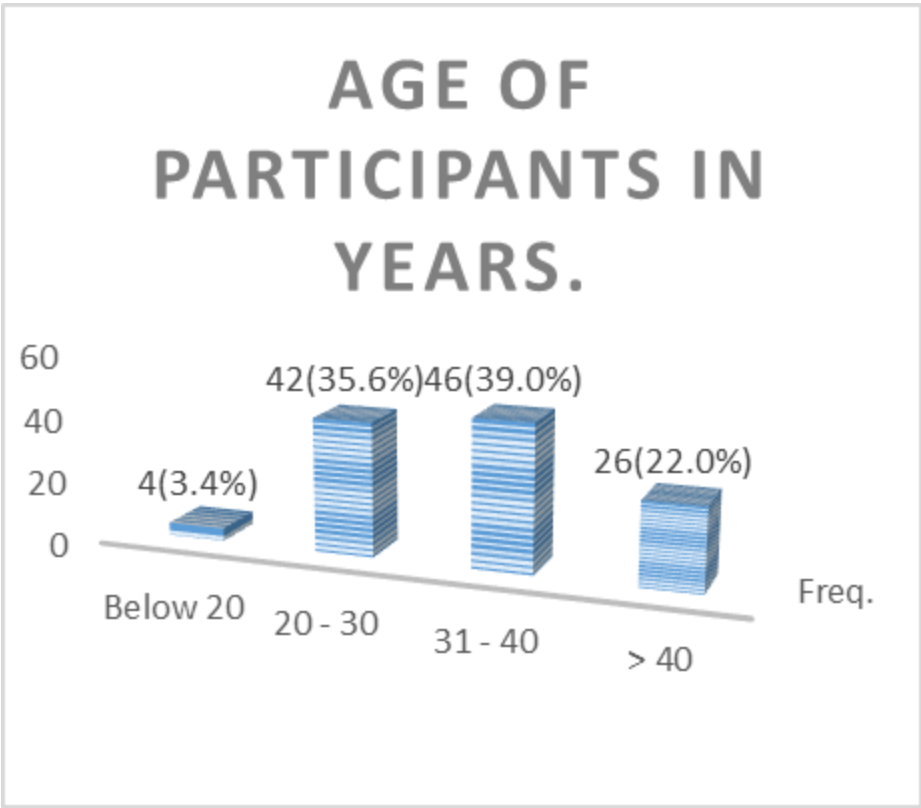
We conducted a qualitative study in Mbale city over 7 days using in-depth interviews. The study participants were recruited from the community using purposive sampling. We explored community perspectives regarding Knowledge of Ebola, preparedness, response, and prevention of Ebola Virus Disease after the covid 19 pandemic in Mbale City in Eastern Uganda during an ongoing outbreak in Mubende, Kasanda, Bunyangabo etc. The key informant interviews were performed with key influencers (Market vendors, motorcyclists, Taxi drivers, teachers, Nursery school teachers, street vendors, VHTs, Businessmen and women,)), following a semi-structured interview guide. Interviews were recorded with simultaneous notetaking. Priori coding was used following a deductive approach. All codes were categorized to generate themes and subthemes. The research team reviewed all the parent and child codes to make sense of them. The analysis followed a thematic analysis.

Ethical Consideration

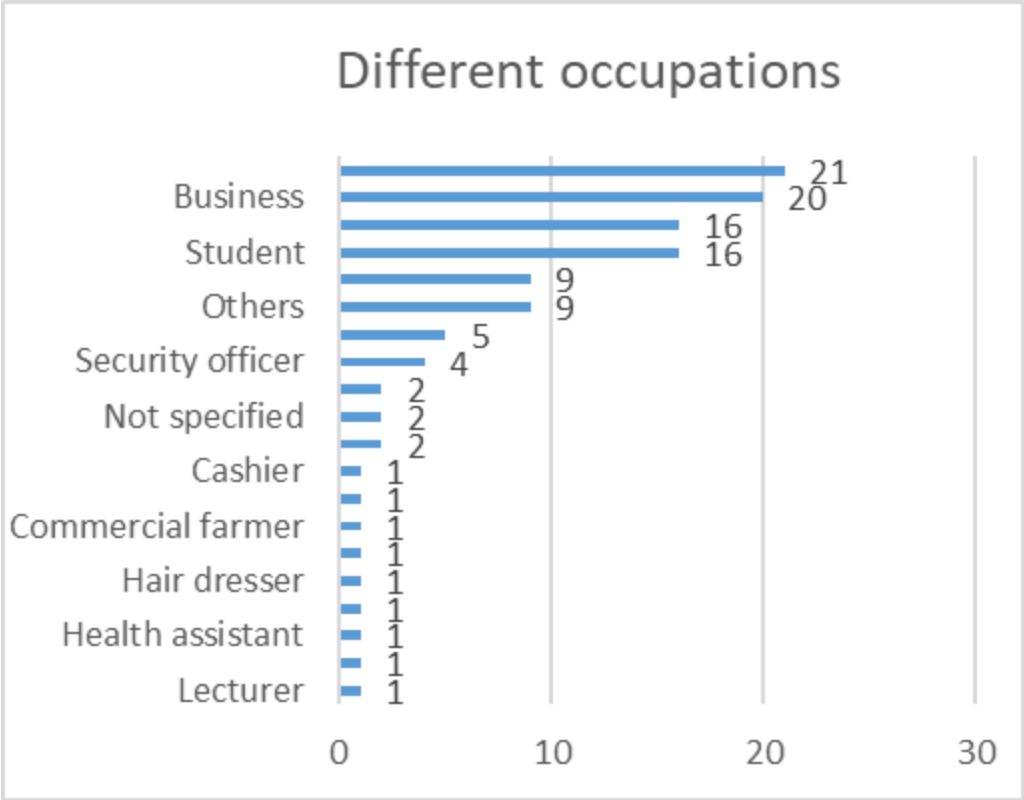
Ethical approval was obtained from the Research Ethics Committee (REC) of Mbale Regional Referral Hospital (Approval No. MRRH-2023-300). Written informed consent was obtained from all participants, with the consent form approved by the REC.

Results

Social Demographic Factors



Categories of respondents



Thematic Areas

Main theme	Subtheme	Sub Theme/ Child node
Knowledge on Ebola	Awareness of Ebola	Sources of Information.
		Presidential Addresses and government programs.
		Previous cases of Ebola
		Media Platforms
		Other sources
	Modes of transmission	Primary modes of transmission
		Secondary modes of transmission
	Misconceptions on Ebola	Community Misconceptions
		Other misconceptions
	Chances of death of EBV patients without management	
Perspectives on the prevention of EVD in the community	Perspectives on utilization of PPE	
	Perspectives on the handling of EVD patients with PPE.	
	Perspectives on contracting Ebola Virus Disease (EVD)	
	Perspectives on the Burial Process/Management of Corpses with EVD.	Burying of Corpse by Family
	Perspectives on Isolation of EVD Patients	Separation of infected patients from the public
	Leaving Ebola-infected patients to die.	
	Community prevention measures for EVD.	
Preparedness and response for EVD	At household Level	
	Response	Use of Local Herbs
	Giving first aid	

Main theme	Subtheme	Sub Theme/ Child node
Treatment and Management of EVD Patients.	Costs of medication and services	
	Contacting immediate health workers	
	Contacting Police	

Theme: Knowledge and awareness of Ebola Virus disease among community members.

Some of the respondents were knowledgeable about the Ebola Virus disease and were able to mention some of the signs and symptoms of Ebola, They got to know about it through awareness campaigns by the Ministry of Health and other government programs, through social media platforms and others got to know about it through retrieving incidents of some of the famous persons who perished because of Ebola. Regarding awareness of Ebola among community members in Mbale city, most of the people acknowledged having heard about Ebola through or via various sources of information. The majority of them acknowledged that they heard about it over the radio during the presidential addresses and VHTs.

Subtheme 1: Through previous cases of EVD in the community.

We had a few members who attributed theory knowledge about Ebola virus disease through previous scenarios of Doctors like Dr Lukwiya who passed on because of Ebola. Whenever they hear about Ebola, his name keeps popping out.

“Dr Lukwiya who perished because of Ebola, Security officer, (Retired Teacher, Male, 42 years, Namatala)”.

Subtheme 2: Presidential addresses and government programs.

Most of the respondents acknowledged that they had heard about Ebola during the presidential addresses to the county and other government health programs. The information used to come through local radio stations and media houses within the country.

During the presidential address, he informed us that it’s a deadly disease which spreads through contact with an infected patient and emphasized that we have to avoid getting in contact with an Ebola Patient, (Administrator, Male, 40 years, Bam shopping Centre)

During one of the programs on Step FM and Big FM, some doctor was talking about it and advised us to avoid anyone bleeding heavily from all body parts, (Student, Female, 20 years, Mbale School of Nursing and Midwifery)

Subtheme 3: Some information came through social media platforms.

Participants acknowledged having heard about Ebola through social media platforms like WhatsApp, especially during the outbreak in Mubende and Kasanda. They informed us that a lot of information was circulated in pictorial format with the patient's bleeding.

I saw pictures of people bleeding on social media and shared them with my colleagues just to make them aware that Ebola is real, (Businessman, male, 32 years, Naboa Road)

During some meetings with colleagues, they showed me some photos from Mubende and Kasanda which shocked me.....makes alarm.....I wouldn't believe...(Peasant, Male, 35 years, Busiu Market)

Subtheme 4: Other sources of information within the community.

Some of the respondents informed us that they had heard about Ebola from their local leaders and team leaders. The leaders included chairpersons of motorcycle stages, and LC1s among others because of the suspected EBV cases at a nearby health facility. Billboards, hospital information, government sites, nearby health centers, and friends and family were other sources of information for most of the community members.

"Yesterday, the chairperson informed us that there is a case of Ebola at Busiu HCIV, however, we are not sure whether the patient is still there or was transferred to Mbale, (Motorcycle rider, Male, 29 years, Tororo road stage).

"Hospital notice boards around casualty wards, I read about it when I had taken my son for treatment after he had broken his arm and also heard about it through my friends especially in the evenings when we meet to have a bottle of beer together retired Teacher, Male, 42 years, Namatala)".

Recently, the in-charge at Namatala HCIV took us through training on Ebola after having a suspected case of EBV at our facilities, (VHT, Male, 46 years, Namatala HCIV)

Subtheme 6: Knowledge of modes of transmission

Most of the patients were afraid of contacting EVD because they were not sure of the modes of transmission contributing to the increasing numbers of new cases within the community (incidence rate) which would prompt them to go into a lockdown just like it was in the districts of Mubende and Kasanda.

"Ebola is transmitted by eating African or local bats, (Student, 20 years, Male, Mbale School of Nursing and Midwifery)".

It spreads in many ways so you can't tell how someone can easily acquire it, (Market vendor, Male, 40 years, Mbale Central market)

Some of them who were knowledgeable about the modes of transmission were worried about death and the costs attached to the management and treatment of the disease.

If I knew, I could try managing it, but I feel I don't have any knowledge about Ebola and its management, therefore, am very afraid and I don't take it for granted, (Motorcyclist man, Male, 42 years, Kumi road stage)

However, there were a few who acknowledged that they were not afraid of EBV because they had enough knowledge related to the transmission and prevention of the disease. Some assured us that it is their noble profession to treat such cases and therefore not afraid of such diseases.

I'm meant to love and serve the nation, so I'm not afraid of EBOLA, Nursing School, and Male, 30 years, Mbale School of Nursing and Midwifery)

Subtheme 7: Community misconceptions about EVD

There were more misconceptions about Ebola among members of the community. Most of the misconceptions were attributed to the causes of the disease, the modes of transmission and prevention. Respondents informed the team that Ebola was a political disease just like covid clearly stating that the government had a motive of locking them down and making them redundant just like during the covid pandemic. Other respondents attributed it to witchcraft and a disease superimposed on them by the government.

That it is in Uganda alone and the government wants to use it to lock us down gain, but we shall strike, (Market vendor, Male, 28 years, Mbale central Market)

However, some respondents acknowledged not having heard or known about Ebola and attributed it to witchcraft and its nonexistence in Uganda. Ebola in the face of COVID-19, some respondents thought it was a political move by the government to superimpose a new disease on the country so that they are locked down.

"It's witchcraft, it's not a disease because it has no treatment, boda rider, (Male, 34 years, Pallisa Road stage)".

It's associated with which craft and we have been told that most of the people in Mubende and Kasanda were bewitched.....by the way let me ask, why is the government wasting a lot of taxpayers' money on it, (26 years, Male, Pork Business, Namatala village):

Theme 2: Perspectives towards methods of prevention of EVD in the community.

Most of the participants agreed with the Ministry of Health guidelines for burying victims of Ebola however, some of them are against it citing aspects related to doubt regarding the appropriate handling of their patients and what they referred to as indecent burial that does not concur with the cultural and social norms. During the interview, we were informed of the various ways how to handle EBV patients at the household level. Some of the respondents informed the team that they would take them to the hospital while others preferred to consult traditional herbalists for better management. Some of them informed us that they would give some first aid before approaching a health facility or health worker.

"I move away and look for where else to stay because I might end up contracting it, (Female, Cashier, 20 years, Nalufutu Restaurant)

"If I can manage a menstruating wife, how about just blood, I can't leave that patient to die when I am there (Taxi Driver, Male, 34 Years, Mbale Taxi Park)

Subtheme 1: Working in the same environments/workplaces with EVD patients.

Those who said No, had several reasons why they were not okay staying and working in case they had an Ebola patient in their working environment.

I may be a suspect, so I keep off work not to spread it to my colleagues, (Lecturer, Male, 47 years, Islamic University in Uganda)

I can't even come, if possible, I go and work in another market, (Market Vendor, Male, 30 years, Bugwere Market)

However, some of them were okay with staying with suspects of EBV within their work premises and environments citing reasons related to their being attached to their colleagues, empathy, and the need for money as a priority.

We call the police to take the patient to the hospital after giving first aid we resume work. First aid like cleaning him and a kiss of life, Market vendor, 30 years, Kikindu Market)

I have to make money to survive, Ebola is a political disease just like covid and my family needs food, Museveni won't feed my children, (Security guard, Male, 31 years, Bam shopping Centre)

Subtheme 2: Community perspectives regarding the utilization of Personal Protective Equipment.

Regarding the utilization of personal protective equipment, participants acknowledge that they utilize PPE because the president of Uganda kept emphasizing it during the presidential addresses on EBV, but they only put them on while in crowded places and when approaching dirty places within the city. They also kept wondering whether the Masks fused to prevent EBV were different from those used for COVID-19.

Are Ebola Masks different from the ones of COVID-19 because the president keeps telling us to use them, for my sake, I only put them when I go to places like markets and taxi parks (Female, 21 years, Tailor, Bishop Wasike Road)

However, some informed us that amidst the Ebola outbreak, they had never used masks because they found no importance or value attached to it since Ebola was not like COVID-19 which was transmitted through aerial droplets.

"I do not think masks are relevant during this Ebola pandemic because even during COVID-19, didn't use any, do you think Covid 19 is the same as Ebola and are the prevention measures the same or does every pandemic or disease involve putting on masks? (Male, Street Vendor, 34 years, Pallisa Road)".

Some of the respondents believed that masks and other forms of PPE were meant to be used by only health workers in hospitals. However, some of them informed us of their perceptions and feelings towards the use of PPE especially masks and gloves citing issues related to discomfort and their inability to afford them all the time.

"I do not breathe well with a mask and sometimes I snore. The president should revise the guidelines. (Female, 30 years, retailer, Republic Street)"

"For masks, they make me uncomfortable especially when the market is hot, (Male, 30 years, Market vendor, Male Central Market)"

Subtheme 3: Perspectives regarding handling EVD cases with PPE

Some of the community members felt that it was okay for them to touch the victims of Ebola and acknowledge that they were not health workers and fear contracting infections. The community seemed not to understand the difference between IPC and PPE. Most of them did not know the various forms or categories of PPE.

"They are people like us why not handle them well because we don't even have PPE in the market, Market vendor, (Female, 27 years, Mbale central Market)"

"In the market, we don't have those materials, so we use what we have and know unless the government gives us and also teaches us how to use them (Market Vendor, 24 years, Male, Mbale central market)".

However, some acknowledged that they were not comfortable touching the infected person and the reasons cited were related to the chances of contracting the infection and transmitting it to the other colleagues as well.

"Because am not a health worker and we are advised to contact health workers not ourselves to do it, (Retailer, Female, 30 years, Kumi road)".

"Made to protect you from direct contact with the sick patient to prevent transmission of the disease, (student, Male 21 years, Iganga School of Nursing and Midwifery)"

Subtheme 4: Perspectives related to the burial process for EVD cases.

Regarding the burial process, most participants seemed not okay with the burial process indicated in the MOH guidelines citing challenges related to delays in the arrival of the burial teams poor handling of their dead bodies and poor management. Some of the participants were uncomfortable burying a corpse with EBV because they had heard of some information over the media informing them of the appropriate means and methods of treating and burying a corpse with EBV.

“We were told on the radio, not to burry people infected with Ebola (Motorcyclist, Male, 31 years, Republic Street)”

“They may not be able to handle it well making the multiplier effect high, (Male, 40 years, Businessman, Industrial Area)”

While others were not okay with burying their corpse following guidelines from the Ministry of Health, some of the members were very okay with burying their corpses citing concerns related to the delay of the burial teams to arrive and their bodies ending up getting rotten, carelessly handling and hurting their bodies and finding no importance of leaving the burial team to do it because if someone is dead, it didn't matter who barriers the body.

“The person will rot on earth if not buried immediately and Ebola response teams take a long, so they better leave the family to do an immediate burial, Teacher, Female, 40 years, Maluku Nursery school).

“They might do it carelessly and hurt my person, especially if she is my wife, (Technician, Male, 31 years, Mbale Garage)

“They are not trained medical personnel and have no proper gear or equipment to use during the burial, (Administrator, Male, 31 years, Abrah Shopping Center, Mbale city)”

Subtheme 5: Perspectives regarding isolation of cases with EVD.

Most of the respondents expressed interest in separating the patients from the public because they were afraid of contracting the disease and fear of dying, especially those who had watched what transpired in Mubende and Kasanda districts.

“To prevent the spread of the disease, for sure I watched some patients on WhatsApp and felt like crying (Nursery teacher, Female, 32 years, Elgon primary school, Mbale)

“So that the virus doesn't spread to other people especially some of us who can't afford better health services like good hospitals and facilities, (Security guard, Male, Mbale tower, primary School)’

However out of curiosity and needed to witness, some of the respondents felt it necessary for the patients to be part of the public so that they can learn from them and leave them to work so that they could earn a living.

What if she wants to work with us in the market, we allow her because the family needs food, (Prison Warden, 27 years. Male. Maluku Prison)

We need to see them and learn what the signs and symptoms are, (Market Vendor, Male, 49 years, Bugwere Market)

The community felt that it was not important to offer quarantine to the patients because they would end up suffering just like they did during the COVID pandemic and had a feeling that some just died without getting proper treatment.

“Quarantine is not good when they are just going to leave the patient there without treatment, (Cashier, Female, 23 years, Kapkwata Restaurant, Kumi Road, Male district)

“Not sure, therefore we need Museveni and his government to educate us on such diseases because when COVID came, they just locked us down and we ended up learning from the presidential addresses.
(Peasant, Female, 40 years, Busiu Market)

Subtheme 5: Ebola-infected person should be left to die!

Some respondents acknowledge that Ebola patients should not be left to die because they have a right to life and deserve to be taken care of like any other patients, unlike COVID patients who are dumped in Namboole without adequate care.

“They deserve to be taken care of like other patients, not like the way they used to pick out patients during the lockdown and dump them in Mulago and Namboole, some of them didn’t die of COVID-19 but psychological torture (Private Taxi driver, Male, 40 years, Kumi road stage)”

“Ebola Patients are supposed to be taken to the hospital but can report to the nearest Health Centre, (Motorcyclist, Male, 31 years, Nabuyonga stage)

However, some of the respondents found purpose in leaving the patients to die because they believed that Ebola had not been cured and the chances of survival were low compared to Covid 19 and cholera.

“They will end up infecting us and some don’t have money to access health services, so letting them die is a solution,(Security guard, Male,23 years, tight security company)”

Theme 3: Community preparedness and response for EVD

Subtheme 1: Community preparedness to handle EVD cases.

Regarding preparedness and response, most of the respondents claimed that they were not prepared to handle such cases because they lacked adequate knowledge as well as resources sufficient.

I even don't know what to do really because I even don't have anything to use to handle the patient but since he is mine, I just surrender and clean him and take him to hospital,(Market Vendor, Male, 40years,Kikindu Market

Subtheme 1: Contacting a health worker (Skilled or Not Skilled)/Visiting a health facility.

Some of the respondents preferred to contact any health worker, whether skilled or unskilled to offer support in treating and managing the patients. Visiting a nearby health facility was also another way of responding to cases of EVD within the community.

I take him to the hospital and if it fails, we use a traditional herbalist, (Market Vendor, Female, 26 years, Bugwere Market)

I even don't know what to do really because I even don't have anything to use to handle the patient but since he is mine, I just surrender and clean him and take him to hospital,(Market Vendor, Male, 40years,Kikindu Market)

Subtheme 2: Giving First aid to the patient.

Giving first aid to patients with EVD was also another response mechanism among people in Mbale city. They preferred to give first aid, which in their case involved cleaning up the patient before transporting or taking them to the hospital.

Then I first give first aid and take to the hospital, first aid like cleaning his face, washing and bathing him and also give a pain killer, (Market vendor, Male, 45 years, Mbale Central Market)

Theme 4: Treatment and Management of Patients with E V D.

Some of the participants acknowledged that they were aware of the virus, and how it's transmitted but had belief that Local herbs can help in the treatment and management of the virus and EVD without necessarily going to the hospital.

Because people say that you can heal without going to the hospital. We have natural herbs we use to heal it (Peasant, Female,28years, Mbale central Market)

Yeah....I have heard that people can heal without going to the hospital because I had a child with nose bleeding but healed after pouring water on her, (Irish Vendor, Female, 26 years, Bugwere market)

Subtheme 1: The high costs associated with medications and health facilities.

Most respondents acknowledged that it was not expensive to treat patients with Ebola because of the presence of so many vaccines though they doubted their level of efficacy, especially in a resource-constrained environment and the economy where most people were struggling to earn a living. They also informed the team that there are natural herbs that can be taken without necessarily going to the hospital.

Because it's taken care of by the government, Museveni during one of his addresses told us to identify and report, the rest, we leave it for the Government. (Farmer, Female, 4 years, Busiu town)

Yet we even have herbs in the village which can be used to treat such diseases, I don't think it's expensive though I have never had such a patient before, (Pedestrian, Male, 24 years, Republic Street, Mbale City)

Subtheme 2: Chances of death of EVD patients without management.

Participants acknowledged that anyone could die of EBV if not treated well. Participants still believed that Ebola was like COVID-19. During the COVID-19 pandemic, the majority informed us that they used some natural herbs without necessarily going to the hospital and eventually recovered from COVID-19, they therefore thought that Ebola would also be treated the same way.

Because when someone gets Ebola, they are on God's mercy, it's because Ebola comes as a result of witchcraft so being near those witch doctors can predispose you to it and it's the only form of witchcraft which kills somebody very fast. If the government does not stop the witchdoctors, it will leave Mubende and take over the whole country, (shopkeeper, Female, 37 years, Nkokongeru terrace)

If you have been diagnosed with EBOLA, it has no treatment as of now and it's taken short period for you to die (Student, Female, 19 years, and Kolonyi Nursing School)

Discussion

Amidst public health emergencies like the EVD outbreak, public health practitioners must be quick to involve community health workers, social mobilization teams, as well as medical student bodies to conduct health education talks and design feasible and cost-effective interventions to equip the community with knowledge about common and anticipated epidemics [9]. Based on the previous report, this study shows that in a major EVD outbreak control effort in Uganda, there was still a big gap in knowledge as well as modes of prevention of EVD in Mbale city. Our study also asserts that the community engagement approach reaffirmed a historical mistrust and stereotypes between “scientific” - biomedical and local explanations of illness and misfortune. This theme goes back as far as Evans-Pritchard's *Witchcraft, Oracles and Magic among the Azande* (1937) and [10]- the subject of a truly immense body of anthropological literature. It illustrates the lack of credibility of biomedical explanations that ignore local understandings, combined with the relatively logical and empirical basis of local explanations where some of them mistook EBV for Witchcraft [10].

In as much as the medical approach explains the management of the EVD [6], our study had another approach to the management of EVD by which the community explained natural herbs and local first aid to their patients. This is not different from the existence of a local medical system characterized by resilience and syncretism - an observation supported by well-established anthropological facts. It seems, therefore, counterproductive to deny this process [11].

Regarding transmission of EBV, the study indicated that Ebola was transmitted through bats and wild animals and direct contact with fluids which was also highlighted by a study conducted [12]

The burial process stipulated in the guidelines by MOH (Uganda) was not appreciated by participants, citing challenges related to poor handling of their patients and not being content with the fact that the corpse be buried by a special team because they were their relatives and need not be buried by special teams, however, some of them who were okay with the decent burial as per the MOH guidelines cited out fear of contracting the disease and dying of EBV which is not far different from a report by [13]

Similarly, the advice to use gloves, goggles and other PPE when dealing with EBV victims was both impractical (people have no access to these resources) and socially and culturally unacceptable as a way of caring for both sick and deceased relatives.

To be truly effective in bridging the gap among the community in epidemic and disease outbreak control, we believe community engagements are needed first and foremost, especially in the rural communities of Uganda. To develop a more “people-centered” approach to outbreak control and management, collaboration with the community must be at its core, and ideally, the community should be seen as a resource instead of a barrier [7]. To achieve this, the big missing element is knowing the perceptions, knowledge gap and response mechanisms in the community related to the outbreak and how to handle it with a community-based approach. Surprisingly, so little serious effort was made to consider local sensibilities and culture during the pandemic. Given this knowledge base and the extent of commonality in local etiologies across sub-Saharan Africa, it beggars belief that this was largely ignored in the early response to a major epidemic in West Africa. Consequently, the problem of early preparedness and problems of misconceptions and stereotypes in the community is not only a question of using local resources but also of making use, in public health outreach, of the contextual cultural knowledge that has already been collected and is readily available. To avoid panic and misunderstanding of such pandemics, the Ministry of Health through the public health departments must try to provide community-based health education to the masses at all levels [14]. This could also apply to other infectious diseases because the underlying principles are the same [15].

Another large body of literature which is relevant for explaining the distrust of the formal health system, and which also tends to be ignored when prevention campaigns do not work, is that which explores rumours and local distrust of “outsiders” perceived to be powerful and a potential threat to local interests [8]. These may be “foreign” medical researchers thought to be stealing local people’s blood under the cover of clinical trials national health authorities secretly sterilizing women in the guise of immunization campaigns, or disinformation campaigns deliberately intended to mislead people about the “real” cause of a disease [4], [12].

Conclusions

With all the available information about the previous outbreaks in Uganda, it is surprising that less effort was made this time round to take local sensibilities and culture into account among other social factors contributing to the poor practices of masses toward the Ebola Virus Disease, preparedness, prevention and response. The lack of preparedness, poor knowledge and response mechanisms among participants was not only a question of using local resources but also of making use of the contextual cultural knowledge that exists among the population, especially how to manage such cases and catastrophes. EVD outbreak preparedness and response remain contingent upon human interaction and openness to cultural and social differences.

Declarations

Ethics approval and consent to participate.

Ethical approval was obtained from the Research Ethics Committee (REC) of Mbale Regional Referral Hospital (Approval No. MRRH-2023-300). Written informed consent was obtained from all participants,

with the consent form approved by the REC.

Consent for publication.

Not applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

EKK, PK, and AGN conceived the idea and wrote the proposal. EKK, PK, AGN, and RK created the initial survey drafts and participated in survey edits. EKK, RK, FN, RN, BN, JA, and MN participated in data collection. EKK and AO performed data analysis. EKK wrote the original manuscript draft. BB, AGN, EH, PW, MM, JW, PN, PK, AN, TBM, BA, and IA reviewed the first version of the manuscript. All authors read and approved the final manuscript.

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Community engagement and involvement.

Community engagement was done to disseminate or share findings with the community through conferences, community health talks, and disc, sessions to ensure a critical change in behavior used to take action and promote the best practices necessary for slowing the problem.

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