

Original Research Article

Corona virus response: narrative on how the virus transformed lives in the rural areas of Abia state, Nigeria

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Abstract

Background: Many people in communities especially children and elderly are at risk of losing their lives to pneumonia, diarrhoeal diseases, malaria, HIV and other preventable diseases unless urgent action is taken to mitigate the spread of COVID-19. For instance, disruptions in immunization services for fear of getting infected with the virus will result in more children dying from pneumonia, which already kills many children in rural areas. Limited resources in rural areas may result to lack of basic hand washing facilities at home which form the fundamental mechanism to prevent COVID-19, thereby, expose already vulnerable people in rural areas to infection. Study assessed the extent to which individuals in rural areas effectively practiced preventive measures of COVID-19 infection as outlined by centre for disease control (CDC).

Methods: This is qualitative study that utilized collaborative information from 36 health care professionals under the aegis of members of COVID-19 committee working together in partnership with state government to ensure that best quality services are available to control, prevent and cushion effects of COVID-19 during and after the COVID-19 crisis. This study is therefore, snapshot of activities individuals in rural areas take to prevent COVID-19 infection.

Results: Findings showed that preventive measures like lockdown and social distancing rules, wearing of face mask, hand washing with soap, and environmental cleanliness were slightly observed thereby, exposing the rural areas to COVID-19 infection. The study observed that public and private life like sexual life, marital life, income, education, employment and social interaction were negatively affected.

Conclusion: From the findings of the study, governments' financial support during the lockdown was insignificant. Therefore, there is need for the governments to provide social amenities to alleviate the numerous socio-economic problems of individuals in the rural areas.

Keywords: COVID-19, Environmental fluctuations, Community life, Violence

INTRODUCTION

On December 31, 2019, cluster of people with pneumonia of unknown etiology were reported in Wuhan City, China. In early January 2020, the novel coronavirus was isolated and identified as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). On 30 January 2020, World Health Organization (WHO) officially declared the COVID-19 epidemic as a public health emergency of international concern and on March 11, the

outbreak was confirmed as a global pandemic.^{1,2} As of 1 March 2020, about 87,137 cases were confirmed

globally, with 2,977 deaths (3.4%) as reported by WHO. By June 15, the cases rose astronomically to 8,410,400 cases with 450,386 deaths. In Nigeria alone, by June 15, 18,480 confirmed cases with 475 deaths have been confirmed just after the virus was introduced in Nigeria on February, 27 by an Italian man who visited the country.^{3,4}

Meanwhile, several researchers have identified SARS-CoV-2 as belonging to β -coronavirus, with highly identical genome to bat coronavirus, pointing to bat as the natural host. The novel coronavirus uses the same receptor, angiotensin-converting enzyme 2 (ACE2) as that for SARS-COV, and mainly spreads through the respiratory tract.^{5,6} However, evidence now shows sustained human-to-human transmission, with some exported cases across the globe.⁷ Researchers have identified the common clinical manifestations of COVID-19 to include fever (88.7%), cough (67.8%), fatigue (38.1%), sputum production (33.4%), shortness of breath (18.6%), sore throat (13.9%), and headache (13.6%). In addition, some patients have also manifested gastrointestinal symptoms, with diarrhoea (3.8%) and vomiting (5.0%).⁸⁻¹¹ However, the elderly and people with underlying diseases are termed very susceptible to the infection and are prone to have serious outcomes associated with acute respiratory distress syndrome (ARDS). That is, the disease tends to progress faster in the elderly people than others. The median number of days from the time of the occurrence of the first symptoms to the time of death is shorter among people aged 65 years and above. Therefore, neonates and the elderly especially those in the rural areas need more attention and care than others due to their weak immune systems.^{12,13}

Epidemiology and transmission

In December 2019, there surfaced an epidemic of unknown acute respiratory tract infection in Wuhan, China. Several studies have suggested that bat may be the potential natural reservoir of SARS-CoV-2. Showing that bat COV and human SARS-COV-2 might share the same ancestor although some researchers have suggested possible alternative intermediate hosts, such as turtles, pangolin and snacks.¹⁴⁻¹⁶

Human-to-human transmission of SARS-CoV-2 has been found to occur mainly between family members, including relatives and friends who intimately had contacts with patients or with the incubation carriers. In the meantime, transmission between health care workers has occurred in 3.8% of COVID-19 patients, and this accounts for nosocomial transmission.^{17,18} It is suspected that direct contact with intermediate host animals or consumption of the wild animals is the main route of SARS-CoV-2 transmission but the source(s) and transmission routine(s) of SARS-CoV-2 are elusive.¹⁹ Coronavirus replication has been traced to angiotensin-converting enzyme 2 (ACE2), in the lower respiratory tract of humans, and is known as the cell receptor for SARS-COV and this regulates both the cross-species and human-to-human transmission.^{21,22} The bronchoalveolar lavage fluid (BALF) isolated from a COVID-19 patient, confirmed that the SARS-CoV-2 uses the same cellular entry receptor, ACE2, as SARS-COV.^{20,23} However, COVID-19 is primarily spread through the respiratory tract, by droplets, respiratory secretions, and direct contact for a low infective dose.²³

Studies have argued that the global outbreak may be due to the following factors. One, the unknown pneumonia outbreak was at the time of China Spring Festival, when there is usually mass population surge. Two, detailed molecular mechanisms of viral binding and entry manners were not elucidated, and these hampered the development of a targeted therapy. Three, it was thought that SARS-CoV-2 is less virulent than the SARS-COV and MERS-COV, and that the potential mechanisms for human-to-human transmission and pathogenic mechanisms of the SARS-CoV-2 were extensively under studied.²⁴⁻²⁶ Based on the current epidemiological investigations, the incubation period is 1-14 days, mostly 3-7 days. And also, the COVID-19 is contagious during the latency period.^{27,28} It is highly transmissible in humans, especially in the elderly people with underlying diseases such as hypertension, chronic obstructive pulmonary disease, diabetes, and cardiovascular disease. These are the people who usually develop rapidly acute respiratory distress syndrome, septic shock, multiple organ failure, metabolic acidosis which is hard to correct, coagulation dysfunction, and these can lead to death.²⁹

The problem is that the clear picture of COVID-19 is elusive because the virus acts like no pathogen humanity has ever seen. The virus attacks the lungs, the kidneys, heart, intestines, liver, brain, eyes, nose, blood vessels, and kills by ferocious rampage through the body, from brain to toes. The crude case fatality rate, based solely on reported numbers of cases and deaths, appears to be 3.96%, but the actual risk of death from COVID-19 is unclear because effective testing for SARS-CoV-2 infection and efficient supportive care for COVID-19 vary widely across the world.³⁰

Preventing the Transmission of COVID-19

Given the lack of effective antiviral therapy against COVID-19, center for disease control (CDC) including Nigerian center for disease control (NCDC) has advised that current treatments should mainly be focused on symptomatic and respiratory support. In the absence of effective vaccine, and therapies to prevent COVID-19 infection, CDC has advocated the use of traditional measures like wearing of cotton face mask, social distancing, frequent hand washing with soap and clean water, environmental cleanliness, and avoiding touching of eyes, nose, and mouth. This is necessary because the virus spreads very easily from person to person, especially in homes, hospitals and other confined spaces. Also, the pathogen can be carried on tiny respiratory droplets that fall as they are coughed or sneezed out. Those who have had close contacts with person (s) with confirmed COVID-19 are counselled to self-isolate for 14 days bearing in mind that the average incubation period is 5-7 days though some cases have occurred for as long as 12-14 days after exposure.^{31,32}

Chloroquine has been proposed as a drug with great potential for treating COVID-19. Chloroquine is usually

used as a drug for treating malaria for many years. Studies have found that chloroquine can be useful because of its ability to interfere with the glycosylation of cellular receptors of SARS-COV and the fact that it functions at both entry and at post-entry stages of the COVID-19 infection.³³ Further studies have argued that promoting the use of malaria drugs like hydroxychloroquine and chloroquine for treating and preventing corona virus could be dangerous to public health. They stress that there is no evidence to show that these malaria drugs can work against the coronavirus. Food and drug agency (FDA) have issued warning that the malaria drugs could cause dangerous abnormalities in the heart rhythm of coronavirus patients and in some cases could result to death. Recently, another drug dexamethasone suspected to treat and prevent COVID-19 has been added. FDA has recommended that the drugs could be used only in clinical trials or under close supervision in hospitals. New evidence has suggested that ultraviolet light can slow the virus by degrading its life span on surfaces but not when in the human body.^{34,35}

The problem now is that the deadly virus has sent humans into hiding and has crashed the global commerce and economy to the extent that it will take some time to revive. The new coronavirus's effects on many countries including the low and middle income countries (LMICs) like Nigeria, are the collapse of gross domestic products, stock market, loss of employment opportunities, loss in demand for fuel, lack of health seeking opportunities, decrease in availability of food, increase in self-medication, fear and violence.³⁶⁻³⁸ Evidence has shown that for countries that are able to implement highly effective interventions such as testing and contact tracing, will achieve success in the prevention of coronavirus. Such countries will virtually eradicate the virus and install robust systems that will monitor new outbreaks, thereby, will have no significant new outbreaks or future waves at all. Even if there are border control failures, the contact tracing system will be effective enough as to control an occasional outbreak until a vaccine is produced.^{39,40}

Ethical consideration

Ethical Review Committees of the Abia State University Teaching Hospital approved the project before the commencement of the study. After the approval from the ethical committee, informed consent was sought and obtained from the COVID-19 committee members before the study started.

METHODS

This study is a qualitative study in which the researchers used rapid phone-based surveys to extract information on COVID-19 prevention from the 36 health workers under the aegis of COVID-19 committee members. The information collected centered on how the knowledge, attitudes and practices of individuals in the rural areas

affected the guidelines for preventing coronavirus as stipulated by Nigerian center for disease control (NCDC). The study also assessed the extent to which individuals in the rural areas encouraged the prevention of COVID-19 infection as well as how the pandemic influenced the lives of individuals in the rural areas. In just three working weeks, the services of this committee members who conducted, monitored and evaluated all COVID-19 prevention activities in the state were mobilized through the use of rapid phone-based surveys. The information from this study gives a small flavor to the activities of individuals in the rural areas towards the prevention of COVID-19 infection. With the spirit of promoting fact-based planning on how to create more awareness on the effects of non-adherence to the guidelines of NCDC, the findings of this study present a snapshot of some of the latest information available on how Covid-19 is affecting the individuals in the rural areas. Although several topics were covered in this study, the consistency in the findings will show an unprecedented crisis, where almost all aspects of life in the rural areas is affected. Therefore, the qualitative knowledge presented in this result covers different aspects of public and private life from economic and environmental fluctuations to changes that affect individuals in terms of income, education, employment and marriage. The findings will also put a spotlight on the effects of COVID-19 for some sub-population groups like women and children.

RESULTS

The findings showed that nearly every aspect of life in the rural areas was negatively affected. How people live, interact with each other, work, communicate, shop, eat, dress, move and travel including health seeking behaviour. A good number of people in the rural areas indulged in self-medication by buying hydroxychloroquine and chloroquine as prophylaxes for corona virus thereby misuse the malaria treatment drugs. There was lack of basic hand washing facilities in the rural areas as many of them complained of lack of money to purchase soap for washing hands regularly. Several households in rural areas reported that they lost their means of livelihoods due to the nationwide lockdown. A good number of those working were laid off and their salaries not paid for months. These constituted serious economic problems and made the observance of the lockdown rules meaningless. As a result, majority of the individuals, especially the younger population disregarded the observance of the lockdown and illegally engaged in commercial transportation with tricycles and motor cycles without social distancing just to carter for their family needs. Some others started mining, quarrying, farming, forestry, and fishing to raise funds for maintaining the family.

The CDC recommendations that all individuals should wear cotton masks when going out in public gatherings and also maintain social distancing were resisted by a good number of the individuals in the rural areas. The

belief was that COVID-19 is only for the elite in the urban areas and not for the poor in the rural areas. Also, there was the belief that hand washing should replace masks wearing and social distancing.

The findings showed that individuals in the rural areas resisted keeping six feet distance between them and people that do not live in the same house. It was viewed as an abomination to keep such a distance from each other. The few that tried it received physical violence from others. A good number of people in the rural areas especially the older adults felt abandoned as a result of the social distancing.

There were reported increases in incidences of domestic violence, rape, robbery and kidnapping despite the lockdown. Individuals especially women who could not provide food for the family members received domestic violence.

DISCUSSION

The findings of this study gave insight into the dire needs of households in the rural areas. The financial constraints that gave rise to lack of provision of basic and effective methods of preventing the spread of COVID-19 could constitute a disadvantage to these vulnerable people in the rural areas. The perennial lack of safe water and sanitation could expose some individuals including women and children to infectious diseases especially typhoid fever and malaria amidst COVID-19. Such infections could cause extreme emotions among the residents in the rural areas as well as add more stress to the job of the COVID-19 committee members because such types of health conditions could take powerful human mechanisms to manage. Also, the belief that hand washing should replace masks wearing and social distancing portrays poor knowledge of the effects of COVID-19 infection and calls for the need to create more awareness on transmission of COVID-19 as well as the benefits of observing NCDC guidelines for prevention. Wrong beliefs in observing the CDC guidelines can be counterproductive by increasing community transmission of COVID-19. This finding agrees with that where massive denial of COVID-19 existence was noted.^{15,17}

The fact that social distancing created loneliness and isolation among the rural dwellers especially among the elderly, posed serious concerns across the entire population. Socialization is a common lifestyle in the rural areas where social gatherings are regularly organized. Isolation could have negative outcomes on the overall behaviour of the residents especially among the youths. Such isolated youths could engage in wide spread substance abuse, rape, conflicts, kidnapping, domestic violence, robbery and other vices. These vices could disrupt the adherence of CDC guidelines for preventing COVID-19 infection because the community leaders in the midst of these insecurities will tend to concentrate on forming vigilante groups to guard and secure the

communities than practicing CDC preventive measures. Therefore, effective ways of addressing loneliness and isolation in the time of a pandemic should not be overlooked.

Laying off those working and not paying them salaries for months will constitute serious economic problems that could make the observance of the lockdown rules meaningless. These individuals, especially the younger ones will tend to engage in risky activities like commercial transportation with tricycles, motor cycles, mining, quarrying, farming, forestry, and fishing without preventive measures just to cater for the family needs and such will expose them to COVID-19 infection. This finding agrees with the economic hardship and Boredom that made young individuals not to observe the lockdown imposed to prevent the spread of corona virus.^{26,29} This calls for the need to financially support individuals in the rural areas so as to cushion the negative effects of COVID-19 lockdown while observing the CDC guidelines for prevention. This is necessary because governments' financial support during this pandemic was rated as insignificant to support the needs of people in the rural areas.

Directing individuals to observe guidelines to prevent COVID-19 infection may not be particularly effective in driving sustaining behaviour change because human beings usually feel like being in control of their own choices. So, when others try to influence their decisions, they may not just accept, without pushing back against the persuasive attempts to avoid the feeling that someone else is controlling them. That is, the innate anti-persuasion radar in humans that raises defenses to dodge and disregard the message thereby, conjuring up the reasons why what someone else suggested is a bad idea. This amounts to pushing individuals to carry out CDC guidelines for COVID-19 prevention without giving them sound knowledge by providing them with facts, figures and reasons why they should carry out the instructions especially when such instructions have no fixed end date, will likely meet with some resistance. The resistance on adhering to CDC guidelines which contributed to the backlash against the lockdown restrictions on Covid-19 as observed in the study was also noted in the studies of.^{27,32} Therefore, the fact that people in the rural areas defaulted in the instruction to observe lockdown and social distancing by shopping regularly instead of once a week, by not washing hands with soap and water, not wearing cotton face masks in public gatherings, not keeping the environment clean, not using alcohol based sanitizers or changing health seeking behaviours to prevent COVID-19 infection may probably be as a result of poor information on the practice of these activities.

The findings in this study showed that COVID-19 has turned the community life upside down and many individuals now engage in behaviours that are capable of encouraging COVID-19 infection. For instance, the increases in the incidences of domestic violence, rape,

robbery and kidnapping are pointers to these. Also, with school closures as containment measure for COVID-19, and with lack of access to internet facilities for online learning, most adolescents in the rural areas became idle at home and idleness can increase the incidence of rape and robbery. With community values being eroded, children will be exposed to the risk of violence, exploitation, abuse and will further find themselves even more vulnerable to psychological aggression and physical punishment. Therefore, the findings on COVID-19 response in the rural areas will inform decision makers on the types of public health and socio-economic policies that will provide more humane futures that will minimize the devastating effects of the pandemic on these poor and marginalized populations. This will help to make social distancing and other NCDC guidelines to flatten the curve in the rural areas. Therefore, Ministry of Health (MOH) will use the findings in this study to organize behaviour change campaigns, COVID-19 tracking, and other interventions that will be beneficial to individuals throughout the pandemic.

CONCLUSION

It is clear that the first wave of the coronavirus is not yet over, and that flattening the curve of the pandemic will be decided by human actions, in the form of strict observance of social distancing, testing and other traditional methods of disease control. Therefore, health education on social distancing, contact tracing, and robust testing will be critical in deciding the future of the pandemic in the rural areas until a vaccine is developed. Government and public health organizations should be active in changing peoples' behaviour by supporting them financially thereby, encourage them to practice the CDC guidelines without constraints.

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