Personal view article

The Implementation of the Stay Home Measure and its Effectiveness in Containing the Spread of 2019-nCoV in East African Countries: Case of Rwanda, and Kenya

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Abstract

A novel coronavirus (2019-nCoV), is a new public health issue that is threatening the entire world. The first cases were detected in China by the end of 2019 and spread worldwide rapidly. A significant number of hospitalization and deaths have been recorded globally. So far, Public health measures, including staying at home, are the only available efficient control measures that help to stop the spread of the disease. This paper aims to document how the stay home measure was implemented and highlight its effects on the prevention of the spread of the disease in Rwanda and Kenya. The selection of Kenya and Rwanda was based on the fact that authors able to access the daily report from these countries. The

authors reviewed the available literature to inform their views. In Rwanda, the stay-home strategy was strictly enforced, and movements were highly restricted, while in Kenya, movements were allowed in some counties with respect to preventive measures in place. The authors of this paper conclude that the stay home measure is a key measure to the containment of the spread of the outbreak. The paper recommends further studies to document the statistical association between the mode of implementation of the stay home measure and the decrease of new cases of 2019-nCoV.
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Introduction

Towards the end of the year 2019, in Wuhan city, in China, severe pneumonia was reported in some hospitals; and the World Health Organization(WHO) was quickly notified.[1] By late January 2020, the causal agent was identified as a novel coronavirus named COVID-19 or 2019-nCoV. The COVID-19 was confirmed as a public health threat and spreads by droplets shed of the respiratory system by someone infected with the virus, which means it would spread with higher proximity of people, larger contact networks, and lower levels of hygienic conditions.[2]

The average incubation period ranges from 0 to 14 days.[3] The novel Coronavirus (2019-nCoV) signs and symptoms include difficulty in breathing, fever, cough, headache, feeling tired, among others.[4] The Novel coronavirus disease is a new public health threat [5]that had not been identified in humans before. Recently the World Health Organization declared the COVID-19 as a pandemic disease because it affects almost all countries all over the world.[6, 7] The pandemic spreads quickly and is causing panic at the international level due to the rapid increase in the number of deaths reported daily.[1] For instance, on 30th April 2020, the WHO reported 323 deaths in Italy, 288 deaths in France, 674 deaths in the United Kingdom, and 2909 deaths in the United States of America.[8]

The novel coronavirus disease (COVID-19) outbreak has exacerbated the existing challenges in public health services in many countries of the world; developed, middle income and low-income countries have been equally affected. Literature shows that the novel coronavirus disease has caused considerable damage to social and economic life globally.[9,10,11] The novel coronavirus disease has significantly stretched the burden to the public health services by adding on the already existing public health challenges resulting from climate change hazards, suicide, HIV/AIDs, inadequate access to safe drinking water, unimproved sanitation, malnutrition, poor hygiene

practices, and zoonotic diseases among others. The World Health Organization (WHO) reported an increase of the novel coronavirus (COVID-19) cases in the countries of the East African community. In Rwanda, on 14th March 2020, the first case was reported, and on 1st May 2020, the total number of confirmed cases was 243 with no deaths. On the same day, on 14th March 2020, Kenya announced the first case of the novel coronavirus disease (COVID-19), and on 1st May, 396 total confirmed cases and 17 deaths were reported.[8] These figures illustrate the rapid increase in the spread of the pandemic.

The 2019-nCoV has caused significant losses in terms of human resources. Both patients and healthcare professionals have been infected[12] and lost their lives. Public health measures were found effective to stop the spread of the diseases.[5] Those public health measures, including the stay home or self-isolation, social distancing, wearing a facial mask, avoiding hands shake, and frequent hand washing using soap or hand sanitizers are only the available effective control measures to stop the spread of the disease.[13] It is in that context that different countries adopted a lockdown and confinement as control measures to contain the spread of the virus. The travels between countries via flights and other means of transports were suspended.[14]

Not only international travels and borders but also travels within the country, such as between districts and provinces, were banned. People were urged to stay home to avoid cross-contamination among them. Consequently, a significant economic loss was also reported.[14] The stay home measure or confinement was an approach to avoid cross-contamination among the people. Some countries such as China implemented total confinement that resulted in a significant reduction of new infections in Hubei Province, with new cases dropping to zero for five consecutive days from 19th March 2020.[15]

All countries in the world emphasized handwashing practices, the use of facial masks, social and physical distancing of at least one meter, and dialing toll-free numbers in case of any sign and symptoms of the 2019-nCoV. All mitigation measures contributed positively to the containment of the pandemic. More specifically, the stay home measure or confinement played a key role in keeping people safe from the spread of the novel coronavirus disease, and it was a new practice. However, the mode of its implementation and its effects are not scientifically documented.

Therefore, this personal perspective aims to document the implementation of the "Stay home and its effects in managing the novel coronavirus disease pandemic in Rwanda, and Kenya, the member countries of the East African Community. The authors reviewed the limited available literature to inform their views about the outbreak and the efforts of the

governments to manage the spread of the disease to save the lives of their citizens. The information contained in this paper is the authors' view about the implementation of the stay home in two member countries of the East African Community and the cases of the Novel coronavirus disease from 14th March to 30th April 2020.

Mode of implementation of the stay home measure in Rwanda

The first case of the novel coronavirus infection was reported in Rwanda on 14th March 2020.[16] From that time, prevention and precaution measures including frequent handwashing with soap or use of hand sanitizer at home and in public places, working from home were adopted.[14] Soon after, all schools were closed.[17] A week later, on 21st March 2020, Rwanda reported 11 confirmed cases of 2019-nCoV.[18]

Due to the fast-spreading nature of the outbreak, on the same day, the government of Rwanda introduced a stay home measure (confinement) and lockdown to stop the spread of 2019-nCoV in the Rwandan community. The stay home involved the temporary suspension of non-essential movement and closure of public events. Only public and private health care facilities, grocery shops, pharmacies, and some banks' branches were allowed to continue their operations to provide the essential services to the people.[14] Moreover, a social distancing of at least one meter, and telework, were encouraged.[14] The stay home (confinement), was initially supposed to last for two weeks; however, it has been extended.[19] The extension was based on the situation and the daily reports of the Ministry of Health.

Following the reports of the Ministry of Health (MoH), the government extended the total confinement up to 30th April 2020. During this period, all non-essential movements were banned. Permission for essential movements, such as go to a health facility, the bank, or food grocery was obtained by applying for movement clearance from police via the internet or via phone by dialing *127# and following the instructions. From 4st May 2020, the government of Rwanda announced the partial de-confinement for the next fifteen days, after which the mitigation measure would be reviewed.[17]

The government allowed some activities to re-open, such as businesses, transport within the same provinces and districts, as well as some public and private services, but schools and churches should remain closed until further notice depending on the situation of2019-nCoV. With this de-confinement measure, people were still urged to observe the precautions and prevention measures such as frequent hand washing, use of face masks, social and physical distancing, and other restrictions put in place by the government of Rwanda to prevent the spread of COVID19 among Rwandans .[17]

Mode of implementation of the stay home measure in Kenya

The Ministry of Health (MoH) of the Republic of Kenya reported the first case of COVID-19 on 13th March 2020. Shortly before that, the Ministry of Health had sensitized the citizens on the necessity of handwashing, respiratory, and food hygiene measures. Additionally, the public had been urged to avoid contact with people with respiratory infections and to report cases of severe respiratory infections.[20]

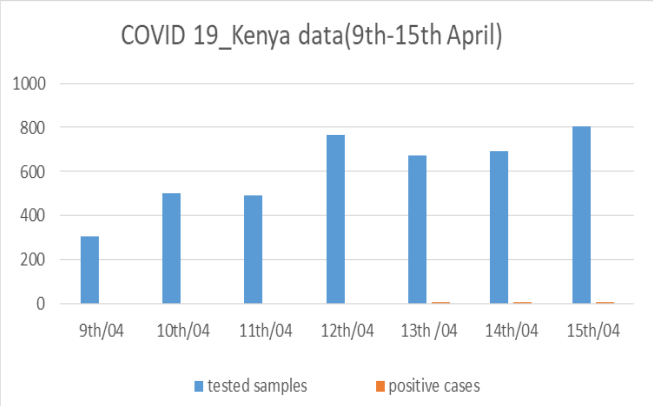
Upon report of the first COVID-19 case, the Ministry of Health further sensitized the people about regular handwashing with soap, maintaining social distance (1.5 meters apart), staying at home if feeling sickly, covering nose/mouth while sneezing, and using disposable tissue/using the flexed elbow. On the same day (13th March 2020), the Government of Kenya declared suspension for 30 days of prison visits, public gatherings, and interschool events. However, schools remained open, and church services continued while meeting all the required standards of hygiene. On 20th March 2020, all schools and higher learning institutions were closed, and later, on 22nd March, all churches, mosques, and other social gatherings were too closed down. People were encouraged to work from home and encouraged to use cashless transactions.[20]

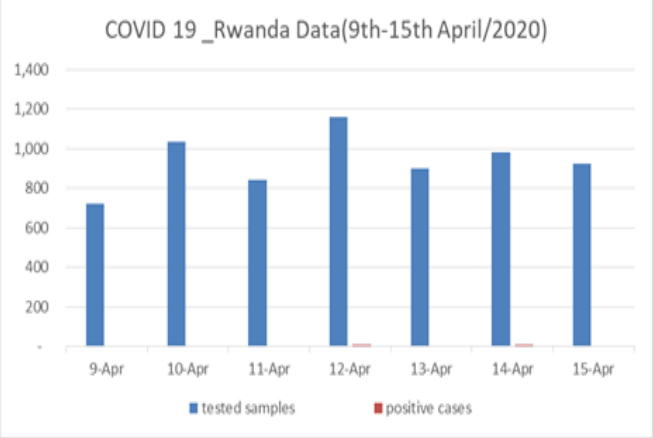
In addition, a curfew was imposed from 7 pm to 5 am. Furthermore, restrictions on the movement of people into and out of designated counties were put in place. More sensitization on how novel coronavirus disease (COVID-19) is spread and precautionary measures continued through various social media platforms and via national and private radio-television channels. A toll-free number 719 was set up to report any cases concerning COVID-19[20].

However, inevitable movements to look for essential services for basic needs such as food sellers, pharmaceutical products, as well as public and private healthcare facilities, were allowed. Although those services were open, the service providers and clients were required to observe the pre communicated prevention and precautionary measures set by the Ministry of Health in Kenya. All those mitigation measures were put in place to contain the spread of the COVID-19 pandemic among Kenyan citizens. Moreover, the stay home measure was set to keep everyone safe and prevent cross-contamination among Kenyans.

The situation of the novel coronavirus disease in Rwanda and Kenya

Rwanda, and Kenya, as the case with other countries all over the world, have put in place measures to contain the spread of COVID-19.





The figures illustrate the number of tests performed and the confirmed number of positive cases in both Kenya and Rwanda in the period starting from 9th-15th April 2020. The authors chose these dates because of the availability of complete data during that period (i.e. the performed tests and the confirmed cases). These findings were compared in the two countries to rule out the effect of total confinement compared to a partial one. Furthermore, the number of COVID19 tests performed in both countries looked almost similar during this period, but there is a clear difference in the number of positive cases in the countries. Researchers attribute this disparity to the fact that stay home measure in both countries was not applied in the same way. In Kenya, some non-essential movements were allowed during the first days, while in Rwanda, they were all stopped.

Stay home measure (Confinement) in the international context

In Wuhan City, total confinement was imposed, and this resulted in positive effects in the control of the outbreak. Literature indicates that travel restrictions have greatly contributed to the containment of the spread of past SARS, Ebola, and bubonic plague outbreaks, in addition to other preventive measures such as social distancing practiced by canceling events and gatherings, closing of public places as well as schools and universities to ensure rigorous adherence to total confinement.[21]

Different levels of confinement strictness were observed in different parts of the world with different outcomes of virus containment. Wilder-Smith et al.2020, pointed out that some European countries such as Germany imposed rigorous confinement and pointed out their respective efficacy in virus containment.[22] However, in Italy at the beginning, authorities allowed residents to continue working, if they respected a 1m distance, and this resulted in a quick spread of the virus. Consequently, strict lockdown became effective in Italy and later in Spain, given that the number of new infections decreased considerably.[23]

Comparison of Stay home measure in East African Community and international context

Referring to the above figures indicating the spread of the COVID 19 in both countries, it is clear that the stay home measure (confinement) played a crucial role in stopping the spread of the pandemic. However, the slow increase in numbers might be attributed to the fact that no tests for people who were at home except the suspected cases, insufficient tests, and also no mass screening among community members.

On the other hand, the findings in the figures above are in line with other studies which showed that stay home contributed a lot in containing the spread of coronavirus. Wilder-Smith et al. showed how confinement was observed in different areas of Europe and pointed out their respective efficacy in virus containment.[22] In Wuhan City, to slow down the rate of epidemic spread, confinement was implemented and resulted in important reductions in case incidence.[24] Chinazzi et al 2019, in their study on the effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak indicated that the travel limitation stopped the progression of the diseases.[25]

Conclusion

The authors of this paper aimed to point out how the stay home measure (confinement) was implemented in Rwanda and Kenya and to highlight its effects in preventing the spread of the novel coronavirus pandemic. Also, the authors highlighted other measures implemented by the governments of Rwanda and Kenya to control the spread of COVID-19. The authors are of the view that the stay home measure has played a key role in the prevention of the spread of COVID19.

Since wearing facial masks and social distancing are new practices to many people and challenging to control, they could not guarantee the total prevention of the spread of the outbreak. These measures could not stop the spread of the disease if people were allowed to move as they used to. Therefore, an increase and decrease in the number of new cases of the novel coronavirus disease in Kenya and Rwanda might be attributed to the mode of

implementation of the stay home measure. This paper then recommends further research to document the statistical association between the mode of implementation of the stay home measure and the decrease or increase of new cases of the Novel coronavirus pandemic. Also, it recommends research to test hypothesis saying that cross-immunity and younger population are factors that contribute to the containment of the spread of 2019-nCoV, especially in Africa.

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Conflict of interest

All authors declare no competing interest

Contributors

N.K. wrote the first draft. R.R visualized data from the websites of the World Health Organization. Other authors contributed to writing the draft. Others provided critical input and searched the literature to respond to the author's comments.

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