



Improving quarantine in Uganda as a key measure to combat COVID-19

Authors: Rawlance Ndejjo¹, Gloria Naggayi¹, Ronald Tibiita², Simon P.S. Kibira¹

¹ School of Public Health, College of Health Sciences, Makerere University, Kampala, Uganda

² Independent Public Health and Research Consultant, Kampala, Uganda

For more information contact:

Rawlance Ndejjo

Email: rndejo@musph.ac.ug

Tel: +256 701 783 971

Introduction

The ongoing global pandemic of severe acute respiratory syndrome coronavirus 2 that causes Corona Virus Disease 2019 (COVID-19) has spread throughout the world causing significant morbidity and mortality [1, 2]. At the beginning of the pandemic, Uganda employed several public health strategies to prevent and contain the epidemic [3].

Uganda initially mainly relied on quarantine in homes and institutions to ensure that those suspected of having been exposed to COVID were separated and observed for a period of time; a measure that was effective initially with most early reported cases being from institutional quarantine centres. Whereas the self-quarantine process in Uganda was affected by low compliance, the institutional quarantine was reportedly marred by neglect, dissatisfaction, frustration and mismanagement as portrayed in the media [4].

As a key measure in the COVID-19 response, measures ought to be undertaken to improve the effectiveness of quarantine. The Ministry of Health (MOH) established guidelines that governed institutional and self-quarantine process but the extent to which these were adhered to is not known. In this study, we set out to explore quarantine compliance and associated factors and experiences among individuals in quarantine. Furthermore, we identified what went well and gaps in the management of the process to inform measures for improving quarantine in Uganda.

Methods

We conducted a concurrent mixed methods study collecting data from 327 persons who had been in institutional quarantine between May and August 2020 through a mobile questionnaire with questions on compliance to COVID-19 measures as per MOH guidelines, their risk perception and knowledge. We also conducted in-depth interviews with individuals who had been in institutional or self-quarantine to understand their experiences and coping measures. We

SUMMARY OF THE STUDY

- 1) Quarantine is one of the key measures that has been employed by the Ministry of Health to deal with COVID-19 in Uganda.
- 2) We determined quarantine compliance and associated factors and explored experiences of individuals in quarantine. We also identified what went well and gaps in the management of the process.
- 3) Only two thirds of individuals in institutional quarantine complied to measures. This was associated with older age, spending less than 15 days in quarantine and reporting that MOH highly complied with its guidelines. The quarantine environment, management, individual factors, and linkage to other services influenced quarantine experiences in institutions. Among those in self-quarantine, the period was long, psychologically draining, expensive, and stigmatizing for some. There were several gaps in the management of quarantine including non-adherence..

To improve the quarantine process, the Ministry of Health should:

- Keep quarantine duration short and ensure a quick turnaround time for test results.
- Ensure adequate preparation of facilities before quarantine and continually monitor their adherence to guidelines.
- Ensure access to health care for quarantined persons and designate facilities to provide health services.
- Intensify community engagement and risk communication to address potential stigma.
- Increase use of information, communication and technology tools to support quarantine management.

further interviewed those involved in the management of the quarantine process including surveillance officers, contact tracers, counsellors, institutional quarantine facility managers and staff such as waiters/waitresses and security personnel. Quantitative analysis was conducted by Poisson regression while thematic content analysis supported the qualitative analysis.

Study findings

Socio-demographic characteristics of survey respondents

Among the 327 survey respondents, 54.7% were males, 75.2% were aged between 19 to 40 years, and 55.0% had attended tertiary or university education. Half of our participants (50.8%) spent their quarantine in public facilities and most were in hotels (38.8) or hostels (44.6%). Only 10% of our respondents spent only 14 days in quarantine with the rest staying longer.

Perception of risk and knowledge

Only 130 (39.8%) of our participants thought they were at risk of contracting COVID-19 within the quarantine facilities. Regarding knowledge of our respondents, 22.0% said quarantine was for those ill with COVID-19;

17.4% said it was for only travelers from other countries and only 44% said that quarantine was intended to facilitate early detection of ill health due to COVID-19. Over 85% of our respondents said quarantine helped to protect the community from contracting disease (86.5%) and separate those who may have been exposed to COVID-19 from others (85.6%). Overall, only 71.6% of our respondents had high knowledge on quarantine (scored at least 80% on the knowledge questions).

Coping measures in quarantine

The reported coping measures were: physical exercise (79.8%), contact with family and friends (62.4%), watching TV/movies (27.8%), working/reading (19.2%), Sleeping/relaxing (11.0%) and others (chatting, social media, praying) (12.4%).

Compliance to quarantine measures by MOH, quarantine facilities and individuals

Compliance	Level of measurement		
	Ministry of Health	Quarantine facility	Quarantined individual
Measures with highest compliance (80% and above)	<ul style="list-style-type: none"> • Samples for COVID-19 testing were taken (100%) • Issued with a medical certificate of completion (91%) • Had temperature taken every day (90%) • A phone call or visit from the medical team (86%) • Disinfection procedure performed at being picked up (80%) 	<ul style="list-style-type: none"> • Personal toilet requirements (96%) • Minimum of three meals a day and adequate safe drinking water (96%) • Communication facilities (95%) • Food served and trays removed by a healthy dedicated person (92%) • A well-ventilated room (91%) • Trash bag to dispose of trash after finishing meals (90%) • Non-separate hygiene and toilet facilities were cleaned daily (83%) • Food servers wore gloves and masks when serving and cleaning (80%) 	<ul style="list-style-type: none"> • Washed hands with soap & water regularly (98%) • Wore a face mask before leaving the room (90%) • Social distancing of at least 4 m at any time (87%) • Did not share toiletries and utensils (81%)
Measures with lowest compliance (less than 80%)	<ul style="list-style-type: none"> • Driver wore a face mask during pick-up (77%) • IEC materials were provided (67%) • Psychosocial support at least twice a week (65%) • Transport was sufficient to provide adequate separation (62%) • For hypertensives and/or diabetics, had blood pressure or random blood sugar checked (33%) 	<ul style="list-style-type: none"> • Beddings and towels to last the duration of the quarantine (72%) • Access to hand sanitiser in the room or around the facility (69%) • Cleaning and disinfection of frequently touched surfaces (68%) • Served food in disposable containers (50%) • Separate hygiene and toilet facilities (46%) • Dustbin with a bin liner for disposal of tissues and other waste products (44%) 	<ul style="list-style-type: none"> • Covered nose and mouth when coughing and/or sneezing (75%) • No physical contact with someone except a health worker (76%)

Factors associated with compliance with COVID-19 measures

At the individual level, overall, 65.4% were highly compliant with COVID-19 measures (reported compliance with at least 80% of the measures assessed). Regarding associated factors with high quarantine compliance, we found that those who were aged between 41 to 80 years were 30% more compliant compared to those 19 to 30 years ($p=0.019$); those who spent between 14 to 15 days were 39% more compliant compared to those who spent over 18 days ($p=0.047$) and those who reported a high MOH compliance with guidelines were 33% more compliant compared to their counterparts ($p=0.002$).

Experiences of individuals in institutional quarantine

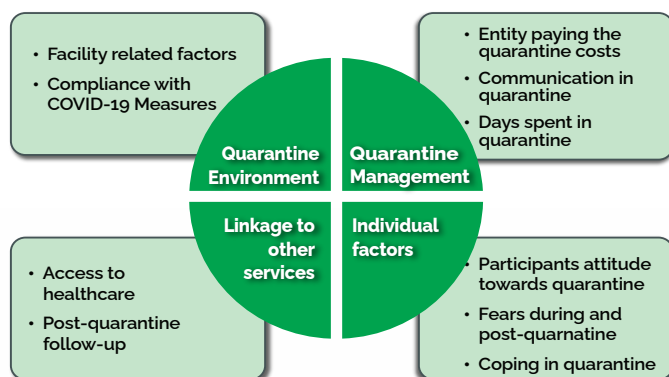


Figure 1: Experiences of individuals in institutional quarantine in Uganda

Overall, individuals in institutional quarantine (Figure 1 above) were more likely to have a positive experience if they had a good environment with conducive facilities and a high compliance with COVID-19 guidelines. Regarding the quarantine management factors, those who paid for themselves, reported a poor communication and stayed longer in quarantine mostly reported a negative experience. The individual attitude including their attitude towards quarantine, fears they had such as stigma and finances and personal coping measures influenced the quarantine experience. Where the individual factors were favourable, a positive quarantine experience was reported. The final factor was linkage to other services including healthcare with those who easily accessed this reporting a good experience. Those who were followed up afterwards by the MOH with questions already answered in quarantine reported a negative experience associated with being bothered post-quarantine.

"...I expected to leave on Sunday, I even called my son and he drove to Entebbe but when I realized that it was coming to 4pm and the results had not been delivered, I told him to return because of the curfew. I was not happy because I had already spent several days in quarantine in another country before returning." (Male, 58 years)

"We never had financial issues because we were given food; breakfast, lunch and dinner. We were given tea, soap, mosquito nets, blankets and even sanitary pads ... We had the essentials unless someone wanted to drink wine, that's when you had to dig into your pocket." (Female, 47 years)."

Experiences of individuals in self-quarantine

Fourteen individuals in self-quarantine were interviewed, most of whom were female, married and aged 40 years and below (Figure 2).

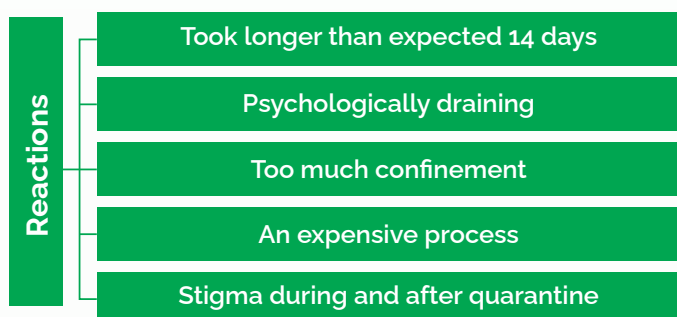


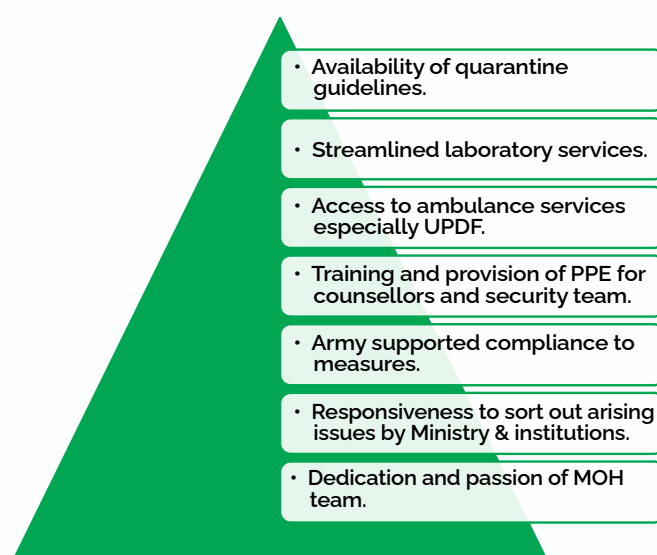
Figure 2: Reactions of individuals in self-quarantine

"I had gone to see my friend who had just had a baby and when I shared my quarantine experience, she was like "did they clear you? No no no give me my baby." I was so embarrassed. I always moved with my certificate to show to people that am actually cleared." (Female, 35 years)

"After 14 days of my quarantine, four more were added for the results to come back and they told us to wait" (Female, 38 years)

What went well

"At first people stayed long in quarantine because they were not getting results which sometimes got lost and so they had to re-test. But now the laboratory team has streamlined its system. When you communicate that I have these people and they need to be swabbed tomorrow, you just need to send an email a day before and surely, they will deliver. This has made our work easy and this is really a plus." (KI, contact tracer)



Gaps in the management of the quarantine process

Category	Specific gaps
Quarantine preparation	<ul style="list-style-type: none"> • Low awareness of quarantine • Inadequate training and limited support supervision • Lack of identification • Stigma
Coordination and communication	<ul style="list-style-type: none"> • Poor tracking of quarantined persons. • Gaps in communication among stakeholders. • Delay in obtaining results. • Multiple data collection. • Liaison with other health facilities for care.
Access to sites and availability of supplies	<ul style="list-style-type: none"> • Transport challenges. • Lack of personal protective equipment. • Lack of required equipment and supplies.
Compliance in quarantine	<ul style="list-style-type: none"> • Non cooperative quarantined persons. • Gaps in hotel compliance
Welfare of the quarantine team	<ul style="list-style-type: none"> • Exposure of family members and public. • Low facilitation and delay in its provision • High workload.

Recommendations to the Ministry of Health

To improve the quarantine process:

- Keep quarantine duration short and ensure a quick and efficient turnaround time for results.
- Subsidise the costs of quarantine for individuals or provide low cost options.
- Ensure adequate preparation of facilities before quarantine and continually monitor their adherence to guidelines.
- Ensure access to health care for quarantined persons and designate facilities to provide services.
- Intensify community engagement and risk communication to address any potential for stigma within communities.
- Increase use of information, communication and technology tools to support quarantine management. For example, technology can support follow-up of persons and counselling.
- Ensure efficient communication for quarantined persons to support them in coping with the measure.
- Increase human resource for contact tracing and follow up for those in self-quarantine and have a tracking mechanism for contacts of cases.
- Provide psychosocial support to those in self-quarantine possibly through use of technology.

To improve the management of the process by the MOH support team:

- Provide rapid trainings in communication skills especially on dealing with persons in quarantine.
- Ensure provision of adequate personal protective equipment.
- Ensure an efficient transportation system to ease getting to and from assigned duties.
- Accommodate team at a central place either within quarantine centre or elsewhere so that they do not return to their homes daily.
- Adequately provide for the welfare of support team including in emoluments that should be timely and other incentives to motivate them.

References

1. World Health Organization. Coronavirus disease (COVID-19) Weekly Epidemiological Update 5th October 2020. Geneva, Switzerland: World Health Organization, 2020 5th October 2020. Report No.
2. Cucinotta D, Vanelli M. WHO Declares COVID-19 a Pandemic. Acta Biomed. 2020;91(1):157-60. Epub 2020/03/20. doi: 10.23750/abm.v91i1.9397. PubMed PMID: 32191675.
3. Ministry of Health Uganda. Update on COVID-19 response in Uganda. Kampala, Uganda: Ministry of Health, 2020.
4. Atuhaire K. Inside 14 days of quarantine, hotels and gaps in guidelines. Daily Monitor. 2020 22nd March 2020.



MAKERERE UNIVERSITY



GOVERNMENT
OF UGANDA

For further information, contact:

Rawlance Ndejjo

Department of Disease Control and Environmental Health

Makerere University School of Public Health

P. O Box 7072, Kampala, Uganda | Email: rndejjo@musph.ac.ug | Tel: +256701783971