

Opinion
Infectious Diseases,
Microbiology & Parasitology



Suggestions to Prepare for the Second Epidemic of COVID-19 in Korea

OPEN ACCESS

Received: May 12, 2020

Accepted: May 13, 2020

Address for Correspondence:

Ho-Kee Yum, MD

Department of Internal Medicine, Seoul Paik Hospital, Inje University College of Medicine, 9 Mareunnae-ro, Jung-gu, Seoul 04551, Korea.
E-mail: hohouno@naver.com

© 2020 The Korean Academy of Medical Sciences.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ORCID iD

Ho-Kee Yum

<https://orcid.org/0000-0002-7929-0906>

Disclosure

The author has no potential conflicts of interest to disclose.

Ho-Kee Yum

Department of Internal Medicine, Inje University College of Medicine, Busan, Korea

INTRODUCTION

Pride creates prejudice. Korea has become a model example for coronavirus disease 2019 (COVID-19) prevention. At the start of the spread of COVID-19, Korea failed to contain the outbreak. Just two months ago, Korea was the worst infected country due to the mass outbreak in Daegu-Gyeongbuk.¹ Over 170 countries imposed travel restrictions for travelers from Korea. The people's voluntary acts of social distancing, thermal monitoring, widespread use of face masks and hand sanitizers, use of information and communications technology (ICT), aggressive testing, tracking suspected patients and tracing contact until the end, have dramatically overcome the COVID-19 epidemic in Korea.² However, most experts predict that a second epidemic will come this fall and winter, 2020. It is necessary to prepare the nation by deciding that the second epidemic of COVID-19 will surely come. I would like to suggest that we should prepare for the second epidemic and sustainable social distancing measures in Korea.

SUGGESTIONS TO PREPARE FOR 2ND EPIDEMIC OF COVID-19

COVID-19 and politics

Infection control laws and guidelines should be prepared to ensure that the cause of infectious disease is blocked and managed properly, regardless of political situations. Infectious diseases have a huge impact on national society, therefore, politicians' attention is inevitable.

In order to manage infectious diseases properly, infectious disease management goals and associated guidelines for infection control, containment and quarantine must be established without any consideration and intervention of political and diplomatic matters. Also, the infectious disease management group and committee should consist of genuine medical and infectious disease experts.

Regular and reserve forces

When the outbreak happened in Daegu-Gyeongbuk, local medical staff and volunteers from all over the country participated. Volunteers without medical training are not enough to resolve the situation. Preparations to support medical and human resources for national

infectious disease disasters are needed. A pandemic is a war-like crisis. The regular army plays a role early on in the war. Thereafter, reserve forces are formed and put into service. In the event of a situation beyond the capabilities of medical personnel in the Daegu-Gyeongbuk region, a “plan B” is needed in advance for how to organize and apply the reserve medical personnel. Needless to say, advanced training is crucial for a pandemic crisis. Medical personnel designated as a reserve force should be fully prepared and aware of what to do if an infectious disease develops. Planning how to mobilize reserves is also necessary. There is no successful practice without training.

Opportunities for medical ICT development

Korea's strength is in ICT and this was proven during the COVID-19 incident. It played a huge role in tracking infected patients, suspected patients, and their contacts. Internet video education, telecommuting video conferences, telemedicine, Residential Treatment Center,³ and self-isolation applications would not have been possible without ICT. Telemedicine by video and telephone was temporarily permitted during the crisis. To continue the use of ICT successfully in the future, the telemedicine should be applied with caution because the patient's condition quickly changes and varies in real time and medicine using ICT requires more difficult judgment compared with face-to-face clinic. Nevertheless the outbreak of COVID-19 creates an opportunity to develop various ICTs in medicine.

Infectious disease crisis comprehensive control tower

A practical comprehensive control tower is needed to cope with the infectious disease crisis. The change of the command system at each stage of the crisis is very worrisome. Regarding the COVID-19 situation, the roles of various headquarters such as the Central Quarantine Countermeasures Headquarters, the Central Accident Remediation Headquarters, the Central Disaster Safety Countermeasures Headquarters, overlapped or did not coordinate with each other. The director for the control of infectious diseases should be the head of the Korea Centers for Disease Control and Prevention (KCDC). The director of the KCDC should plan, educate, and train national systems for crisis. In the event of a crisis, the government must delegate the power to control and manage infectious diseases by mobilizing the nation's human and medical resources to the Head of the KCDC, so that a consistent and systematic command and control is possible.

Expert advisory committee (EAC)

One of the most urgent issues is to establish the systems and principles of the Expert Advisory Committee. In order to operate the EAC actively, the system should be established by law. The EAC should run independently from government and politicians and should come to conclusions based on scientific evidence. It is composed of various experts recommended by medical expert organizations, such as public health, preventive medicine, public information, communication, infections, respiratory disease and critical care medicine, medical resources, academic research and therapeutics. A specialized subcommittee is established within the expert committee. Similar to a reserve group of medical support, the EAC should train and operate proactively before and throughout an epidemic, rather than a one-time participation.

Protection of hospital and medical staffs

Several hospitals were closed during the COVID-19 incident. Several hospitals were forced to lock down when patients misrepresented their COVID-19 symptoms due to anxiety of not being admitted and treated.⁴ The most important factor in the epidemic of infectious

diseases is the protection of hospitals and medical staffs. When a medical institution is contaminated, vulnerable patients are infected, resulting in a high mortality rate and secondary infection. In addition, various infectious disease management policies can only be implemented when hospitals and medical staff are protected.

In the time of an epidemic, it is necessary to guide people on how to visit hospitals correctly. Each medical institution should establish standards and procedures in order to be able to treat infectious and non-infectious patients under every possible clinical situation.

New guidelines for infectious disease outbreak in hospitals

Existing medical guidelines should be reorganized in line with COVID-19 outbreak.⁵ Care guidelines should be established for infected, suspected, and non-infectious diseases. In addition to the guidelines for COVID-19 infectious diseases, new guidelines for the treatment of non-infectious diseases for infected and suspected patients in case of emergencies, the intensive care, surgeries and procedures should be established.

SOCIAL DISTANCING FOR COVID-19

Quarantine, containment and mitigation policies

Mitigation policies have been introduced to the UK and several other European countries. The results of mitigation policies have been disastrous. The result of the failure of quarantine showed high incidence and mortality, and as a result, society was locked down. The purpose of containment and quarantine policy is to avoid epidemic peaks of infection and reduce mortality.⁶ The mortality rate is higher in high infection rate societies due to rapid increase of patients, which the existing medical system cannot handle.

The success of social distancing (SD)

Social distancing is a useful means of preventing the transmission of infectious diseases.⁷ Following news of the first patient in Korea, people voluntarily wore masks and refrained from going out. Mobile big data show us that the floating population has been reduced 60%-70% than usual. The Korean government conducted the first SD for two weeks starting March 22, 2020, with 150 COVID-19 positive patients every day. The first SD allowed for some social activities. From April 6th, 2020, due to the strengthened SD effect over the next two weeks, the incidence of patients decreased to less than 100 patients per day. After conducting SD, the proportion of patients with unknown infection route remained below 5% and the proportion of patients under quarantine, i.e., self-isolation measures, exceeded 80%. Since the effect of enhanced SD was confirmed, the government extended SD for the third time for two more weeks. After the third SD, the number of new cases was reduced to less than 10 people per day.

Failure of SD

The implementation criteria of SD is ambiguous. The system of randomly calling experts to listen to opinions and making decisions through policy and political considerations threatens the effectiveness and sustainability of SD. The impact of stronger SD is too great a burden for the economy. Reasonable criteria for SD should be established in consideration of the number of new patients per day, the rate of unidentified patients, the rate of infection in the quarantine network and the mortality rate. Above all, through explanation and understanding of SD, voluntary participation of the people is crucial.⁸ It is necessary to

inform the people of why, what for, how, for what duration, and explain the expected results to the people.

The alleviating principle of SD should be applied step by step and selectively, but the government took a chance to apply it collectively to the people all at once. As a result, following the national holiday on May 5, 2020, there were multiple outbreaks at clubs in Itaewon, Seoul, Korea. We have to decide to alleviate SD someday while considering the community infection rates, essential facilities to live, the degree of contact during social activities, the proportion of high-risk populations, and the preparation of social distancing action guidelines.

CONCLUSION

We have to say thanks to all people for overcoming COVID-19 successfully in Korea.

Korea seems to overcome the outbreak of COVID-19 with its' excellent medical system, use of masks, quarantine systems, rapid and mass diagnostic tests, advanced ICT and voluntary participation of social distancing. However, we must not be idle as most experts predict that a second epidemic will come this fall and winter. Sustainable and careful SD should be applied continuously. It is necessary to keep the second epidemic in the forefront of our minds and prepare to the best of our abilities, as it could come before we know it.

REFERENCES

1. Kim M, Kweon S, Lee JH, Baek S, Jeon BH, Yoo H, et al. Weekly report on the COVID-19 situation in the Republic of Korea COVID-19 (As of April 18, 2020). https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158764104707000.pdf&rs=/upload_comm/docu/0031/. Updated 2020. Accessed by Apr 27, 2020.
2. The Government of the Republic of Korea. Flattening the curve on COVID-19. How Korea responded to a pandemic using ICT (April 15, 2020). http://overseas.mofa.go.kr/gr-en/brd/m_6940/view.do?seq=761548&srchFr=&srchTo=&srchWord=&srchTp=&multi_itm_seq=0&itm_seq_1=0&itm_seq_2=0&company_cd=&company_nm=&page=1. Updated 2020. Accessed by Apr 27, 2020.
3. Kim SW, Lee KS, Kim K, Lee JJ, Kim JY. A brief telephone severity scoring system and therapeutic living centers solved acute hospital-bed shortage during the COVID-19 outbreak in Daegu, Korea. *J Korean Med Sci* 2020;35(15):e152.
[PUBMED](#) | [CROSSREF](#)
4. Korea JoongAng Daily. <https://news.joins.com/article/23725011>. Updated 2020. Assessed by Apr 27, 2020.
5. Korea Centers for Disease Control and Prevention. Guideline. <https://www.cdc.go.kr/gallery.es?mid=a30506000000&bid=0011>. Updated 2020. Accessed by May 6, 2020.
6. Yoo JH, Hong ST. The outbreak cases with the novel coronavirus suggest upgraded quarantine and isolation in Korea. *J Korean Med Sci* 2020;35(5):e62.
[PUBMED](#) | [CROSSREF](#)
7. Fong MW, Gao H, Wong JY, Xiao J, Shiu EY, Ryu S, et al. Nonpharmaceutical measures for pandemic influenza in nonhealthcare settings—social distancing measures. *Emerg Infect Dis* 2020;26(5):976-84.
[PUBMED](#) | [CROSSREF](#)
8. Centers for Disease Control and Prevention. Interim guidance: public health communicators get your community ready for coronavirus disease 2019 (COVID-19). <https://www.cdc.gov/coronavirus/2019-ncov/community/large-events/mass-gatherings-ready-for-covid-19.html>. Updated 2020. Accessed by Apr 27, 2020.