Preparedness of primary care responses to the next pandemic

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The coronavirus disease 2019 (COVID-19) epidemic in the Republic of Korea (ROK) peaked around March 20, 2022. COVID-19 is now highly likely to become endemic, and accordingly, the government is making policy changes informed by the following considerations. First, the vaccination rate is very high. The primary and secondary vaccination rates are 87.7% and 86.8%, respectively, and approximately 45 million and 44.5 million people have been vaccinated. The vaccination rate is 89.3% in those 60 years of age or older [1].

Second, although vaccine escape has increased due to mutations and the transmissibility of COVID-19 has increased, the fatality rate is decreasing. More specifically, the cumulative fatality rate is 0.09% [2], even though the proportion of unvaccinated children and adolescents exceeds 30% and the rate of breakthrough infections in people who have received the third dose has reached 16% [3]. This low fatality rate is considered to be the effect of vaccination. According to government reports, the third vaccination was 75.0% effective for preventing infection (95% confidence interval [CI], 74.1%– 75.8%), 91.6% effective for preventing severe disease (95% CI, 89.2%–93.4%), and 92.3% effective for preventing death (95% CI, 89.2%–93.4%) [1]. The use of oral therapeutics may also have helped reduce mortality.

In light of these decreases in the number of patients and the fatality rate, the government significantly relaxed social distancing, while maintaining some restrictions related to mask-wearing, shared eating, and events; however, these restrictions will gradually be lifted to normalize each sector of society.

We are then faced with several questions: How long will this decline last? Will new mutations occur again? If so, how should we prepare for the next outbreak? These issues are the focus of substantial debate. There is a high likelihood of a temporary resurgence of Omicron variants this year. From January 2022 to the present, almost one-third of the population has been infected; thus, there is a meaningful possibility that variants may appear in the ROK. Furthermore, rather than COVID-19 being eliminated, it is possible that small-scale outbreaks will continue in the community and then re-emerge when immunity wanes.

Accordingly, evidence supporting policy initiatives should be presented more accurately through an immunity survey to improve the secondary booster and basic vaccination rates in children before re-emergence. Considering the waning of vaccine-induced immunity, it will be necessary to raise the immunity level of target groups starting around October to prevent the circulation of COVID-19 and to simultaneously establish a booster vaccine program.
strategy to protect high-risk groups. In order to increase the vaccination rate among children who have not yet been vaccinated, it is necessary to consider other vaccine formulations and include COVID-19 as a target disease for immunization requirements for school entrance.

It is also necessary to develop a mid- to long-term strategy to prepare for a new pandemic. First of all, the World Health Organization (WHO) prioritization of diseases for research and development (R&D) in emergency contexts in 2017 did not predict this epidemic. In the long term, the disease list for R&D prioritization will be adapted in consideration of the occurrence of infectious diseases in the ROK and Northeast Asia (i.e., population-dense areas where zoonotic diseases are highly likely to occur). The R&D priority list should be rearranged to reflect the cultural characteristics of Asian countries. Based on this, plans to prepare for an epidemic should include monitoring and coordination for early detection; education and training of health and medical personnel; effective non-pharmaceutical interventions; the development of vaccines, therapeutics, and diagnostic tools; scaled-up strategies necessary for the epidemic responses; and stockpiling of personal protective equipment (PPE). A regionalized strategy should be developed.

In addition, if we narrow the scope of planning by focusing on the ROK, it is necessary to think more about the medical response—that is, the preparedness that should be made for a COVID-19 resurgence later this year. As the number of patients increased despite booster vaccinations, screening for suspected patients expanded from public health centers to respiratory clinics and short-term outpatient clinics for home treatment. Confirmed patients were transferred to residential treatment centers, respiratory patient management hospitals, and critically ill patient management hospitals through the triage system of public health centers. Although this system was somewhat unreasonable, it effectively mobilized limited medical resources thanks to the collaboration of the medical community and the shift in the role of public hospitals.

In the surge that peaked around March 20, 2022, the high vaccination uptake rate and the attenuated severity of the virus due to mutations significantly reduced the demand for hospital beds. However, as the number of patients increased significantly more than expected, the number of quarantined at-home care subjects surged. In consideration of the capacity of polymerase chain reaction (PCR) testing and the time required for PCR testing at public health centers, the system switched to using rapid antigen testing-based diagnoses, and 99% of confirmed patients were managed at home.

Accordingly, the at-home management policy was reorganized to enable non-face-to-face treatment centered on public health centers or medical institutions. The elderly and those with underlying diseases were classified into intensive care groups, which received a management kit from a public health center and were actively managed through an app. The general management group was self-managed, but received counseling through a local clinic, a respiratory clinic, or a designated medical institution for respiratory treatment.

However, the ROK’s management system distorts the role of primary care institutions in the local community. Before October 2021, the number of COVID-19 patients in the ROK was lower than in other countries; therefore, it was cumbersome to take steps to prepare all primary care institutions, which had to be equipped with ventilation facilities, infection prevention equipment, auxiliary personnel, and PPE (preparation and stocking), as well as systems to support PCR sample transfer, quarantine and isolation activities, triage of confirmed patients, and education and training of medical personnel. Since the Middle East respiratory syndrome epidemic in 2015, which started with infections associated with medical institutions, the importance of infection control and prevention has been emphasized, and primary care institutions have avoided febrile patients from the beginning of the COVID-19 pandemic. Therefore, the role of primary care institutions in collaboration with public health centers for infectious disease management was not developed.

Other countries that did not have similar experiences to those of the ROK had initial difficulties, but in order to fulfill the role of primary care, steps were taken to activate non-face-to-face treatment, home visiting care, and community clinics for low-risk subjects. In addition, initial encounters for face-to-face care, which are characteristic of primary care, were provided for suspected and confirmed cases, contacts, people who were anxious about COVID-19 infection, and everyone in need of general care, and all efforts were made to provide continuous and comprehensive care.

As a result, those countries learned about the importance and value of primary care during the pandemic, which resulted in a strong sense of solidarity with local residents, a recognition of the importance of supporting medical personnel to overcome the difficulties of the pandemic at the local level, and an understanding of the need to protect primary care functions and provide those that are necessary. The mutual interactions between public health specialists and primary care providers, as well as the experiences gained from the pandemic, are reflected in the education and training of primary care physicians and have a large impact on health care [4].
Meanwhile, in the 2019 Astana Declaration, the WHO insisted that primary health care services should encompass both population health and individual-level care. Therefore, while maintaining the existing essential health services in the setting of COVID-19, it is necessary to promptly take preventive measures against potential infections, avert transmission risk among contacts or health personnel, strengthen existing surveillance systems (e.g., those for influenza-like illnesses and severe acute respiratory infections), and communicate risk with the community. To achieve these goals, the WHO emphasized the need to strengthen community engagement, implement vaccination services, and deliver services innovatively, and suggested aspects of patient management in primary care (e.g., the mobilization of resources and diagnostic testing, classification, isolation, evaluation, and advice) for the management of suspected or confirmed cases [5].

In conclusion, while some countries have vertically managed health systems, other countries with primary care capabilities have management systems that emphasize the role of the primary care physician. Despite these differences in care systems, countries have adopted mitigation policies as the COVID-19 vaccination rate increased and the fatality rate decreased. However, in some countries, home care was introduced from the beginning of the epidemic as infections spread in nursing homes and facilities were closed.

The ROK also considered the role of primary care institutions while expanding home care, but it was overlooked that the strict quarantine and isolation measures against community transmission were more emphasized than the comprehensive and continuous patient care inherent to primary care. In order to prepare for a future pandemic, the disease prevention commissioner, according to the Infectious Disease Prevention and Prevention Control Act, must designate primary care institutions in advance to manage infectious diseases at the county level, with a focus on providing care for suspected and confirmed cases, contacts, people concerned about infection, and patients with general medical needs. It is necessary to preserve the characteristics of primary care and supplement the infectious disease management system by establishing ventilation facilities, adequately stocking PPE for clean rooms, and implementing appropriate testing, patient education, and vaccination.

Notes

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References