What measures should be considered in this 2022–2023 winter season

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With fewer than 10,000 deaths due to coronavirus disease 2019 (COVID-19) reported a day in the current global pandemic situation, on September 14, the World Health Organization Director-General Tedros Adhanom Ghebreyesus made a rather optimistic statement, “the pandemic is not over, but the end is in sight.” Although the number of cases has generally slowed as winter approaches, increases in the case count are being observed in some regions, such as Germany in Europe and China and Japan in the Asia-Pacific region. In Korea, the decrease in the number of patients plateaued, followed by a slight increase in the case count; nearly 50% of the population has been infected, while vaccination coverage is at a very high level (first dose, 87.9%; second dose, 87.1%; and third dose, 65.6%) [1].

According to a recent community health survey of 10,000 people, 97.8% of participants were antibody-positive. Of these, 57.7% were judged to be antibody-positive due to natural infection rather than vaccination, corresponding to an infection rate about 19.5%p higher than that of 38.2% reported in the same period [2].

Why is it difficult to reach the threshold of traditional herd immunity despite such a high vaccination rate and many natural infections? Contrary to our expectations, immune evasion by the mutant forms of the virus is taking place, and according to a cohort study, 56% of patients infected during the spread of the Omicron variant had asymptomatic cases [3], making it difficult to block transmission. Since COVID-19 does not elicit systemic immunity like measles or smallpox, vaccination or natural infection does not maintain the effect of preventing infection for a long time, and resistance against intervention measures such as vaccination and mask-wearing is also believed to contribute to ongoing spread [4]. Therefore, current vaccination initiatives have no choice but to focus on reducing hospitalization and preventing death rather than on community transmission and eradication through herd immunity.

Therefore, what are our plans for this winter? Seasonal influenza, which had a low incidence in the past 3 years, is increasing. Although the epidemic was almost controlled by social distancing, hand-washing, cough etiquette, and vaccination, it is estimated that seasonal influenza will reoccur as before due to a change in non-pharmaceutical intervention policies this winter. As COVID-19 spreads simultaneously, co-infections will become possible. Therefore, it is necessary to persuade the public that those who have not completed the basic vaccination series and at-risk groups should receive additional vaccinations as soon as possible as follows:
First, the recent average number of patients is around 20,000 per day, and the fatality rate is lower than before (cumulative fatality rate, 0.11%). Although COVID-19 has not been eradicated, the lower fatality rate reflects the government’s targeted measures for high-risk groups, such as an increase in prescriptions for oral medications, additional vaccinations, and early screening of high-risk institutionalized population groups. Nonetheless, excessive optimism about the lower fatality rate is dangerous because the toxicity of the now–prevalent BA.5 variant of concern has not weakened, and the severity of BA.2.75 has not changed.

Secondly, despite publicity initiatives, the vaccination rate is not rising. Deaths from infection among unvaccinated persons and those who have received only the first dose account for 31% of all deaths. Compared to September 23 (i.e., a month ago), the current primary, secondary, and tertiary inoculation rates have hardly changed. The fourth inoculation has been only received by 14.7% (about 7.52 million) of the population, and the additional winter season campaign rate was only 1.6% [1,2]. This reflects a misconception about the formation of hybrid immunity from infection and vaccination against COVID-19. In other words, contrary to the belief that 97.8% of the population is antibody-positive and no further infections will occur, about 10% of those who received the second dose were confirmed to be reinfected [2]. Third and fourth vaccinations can now be mistakenly perceived as unnecessary.

Thirdly, scientific persuasion is needed to address vaccine hesitancy. The Wuhan–based vaccine remains effective at preventing severe cases, and it is necessary to encourage the completion of the basic vaccination series first. Even if a bivalent mRNA vaccine is introduced, people concerned about myocarditis as a side effect must be convinced that it is possible to receive inoculations with a protein subunit vaccine. About 30% of children and adolescents who are not vaccinated are reluctant to be vaccinated because infections may be asymptomatic or mild, or because they have concerns about the cardiac side effects of mRNA vaccines. However, myocarditis is very rare (4.6 per 100,000 in adolescents), and it is necessary to convince them that side effect has a good prognosis [5].

Fourth, as the pandemic has continued, each country has pursued its own unique evidence–based policies, but cooperation between neighboring countries is necessary for cross-border control. In particular, cooperation between Korea and Japan, which is introducing mitigation strategies after vaccination, whereas China adheres to the zero-COVID policy, is important. We must actively engage in health diplomacy on cross-border policies through tripartite ministerial meetings.

Finally, looking back over the past 3 years, we have experienced 3 kinds of limitations in responding to the pandemic. Many people are trying to end the pandemic, but to combat this disease, we must draw upon what we currently know (facts), what we need to know (truths), and what we know and can do (implementation). Although it is vitally important for us to recognize our limitations, and we are trying to reduce the gaps between facts (knowledge), truths, and implementation, the establishment of countermeasures based on scientific evidence remains insufficient. There have been inadequate investments in public health and science, with implications for knowledge and truth, and there has been controversy over the participation and the role of academics and experts in the interpretation of facts. There has also been insufficient procedural justice (accountability for reasonableness) [6] for the implementation of action plans. Thus, we need 3 kinds of improvements.

Notes

Ethics Approval
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Conflicts of Interest
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