



Bounce Forward Better: Geriatric and Gerontological Research in the Post-pandemic Future

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In recent years, we have faced challenges in managing coronavirus disease 2019 (COVID-19), especially in older adults. The pandemic has precipitated a global health crisis that impeded older adults from maintaining their health. Disruption of the routine management of chronic diseases, physical inactivity deteriorating physical function and quality of life, malnutrition, and mental disorders have been suggested as major threats to the health of older adults. To address these problems and facilitate reactivation of normal care activities, this article summarizes the contents of a webinar held by the *Annals of Geriatric Medicine and Research* (AGMR) regarding the future directions of geriatric medicine and research in the post-COVID-19 era.

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INTRODUCTION

In recent years, we have faced challenges in addressing the coronavirus disease 2019 (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Not surprisingly, the pandemic has changed people's lives, especially those of older adults. We have witnessed a crisis in geriatric care services, undermining the possibility for older adults to maintain their capacities and abilities during the pandemic. Disruptions in the routine management of chronic diseases, physical inactivity worsening physical function and quality of life, malnutrition, and mental disorders are major threats to the health of older adults.¹⁾

Social distancing measures have been introduced since the beginning of the pandemic. Although many guidelines and recommendations to preserve physical and psychological health have also been provided,^{2,3)} the level of physical activity in community-dwelling older adults has decreased significantly, with negative consequences reported worldwide.⁴⁾ Furthermore, some older patients requiring urgent care for their non-communicable diseases did not receive appropriate and timely treatment, causing increased morbidity and/or an excess of deaths across countries.^{5,6)} Special attention is required to ascertain the long-term impact of the pandemic on global health.

These challenges highlight the importance of future geriatric

and gerontological research. Understanding and addressing the unique needs of older adults can help them to bounce forward and improve their health outcomes in the face of future challenges. In this article, the editors of the *Annals of Geriatric Medicine and Research* (AGMR) aimed to crystallize lessons and key questions learned from the pandemic that must be addressed and resolved amid numerous inappropriate responses, trials, errors, and chaotic situations that have occurred in geriatric care over the past three years.

LESSONS LEARNED

At the annual webinar held by the AGMR on October 6, 2022, distinguished scholars of geriatric medicine held an in-depth discussion regarding the future of geriatric medicine and research in the post-COVID-19 era, particularly highlighting the priorities to be addressed by geriatric and gerontology journals.

The webinar was an opportunity to discuss the responses to protect the geriatric population from infectious diseases, how geriatric care was conducted during the pandemic, countermeasures taken to preserve the health of older people, and the impact of the pandemic on geriatric research and scientific journals. From the beginning of the pandemic, the United Nations and World Health Organization provided guidelines to protect the older population from infection and informed them about how to preserve optimal health. In a specific call to action, the Asian Working Group for Sarcopenia (AWGS) emphasized the need to balance pandemic control and prevent consequences due to restrictions in the older population.²⁾ In the United States, COVID-19-related mortality in long-term care facilities accounts for one-quarter of all cases due to SARS-CoV-2. Notably, our journal published specific preventive guidelines for long-term care facilities in the early phase of the pandemic to reduce the risk of infection clusters.⁷⁾

In addition, the reduced immunological capacity of older persons, their high vulnerability to COVID-19, and their vaccination-related side effects were discussed. While the benefits of vaccination against COVID-19 are well established, studies exploring its efficacy and safety in older persons, especially among the frailest adults (e.g., nursing home residents), are still relatively scarce.^{8,9)} The possible role of COVID-19 in the acceleration of the aging process was corroborated by DNA methylation profiling analysis.¹⁰⁾ The volume of the hippocampal cortex decreased faster in persons infected with SARS-CoV-2 compared to that in non-infected individuals.¹¹⁾ Consistently, a worsening frailty status has been documented after COVID-19.¹²⁾

Excess mortality has frequently been used to measure the impact of the COVID-19 pandemic on the population. The number of

deaths during the pandemic has been reported worldwide.⁶⁾ For example, the number of excess deaths in the United States from March 2020 through February 2022; that is, during the first two years of the pandemic, was an estimated 1,159,580 cases (first year: 620,872; second year: 538,708).⁵⁾ In Korea, the number of deaths in March 2022 (i.e., when the Omicron wave reached its peak) exceeded 18,000. These excess deaths may not directly result from infection, but rather may result from inadequate management of other diseases. Disruptions in healthcare access or utilization may have caused inappropriate and delayed treatment, especially in older persons. Furthermore, a recent study by the World Health Organization showed that the number of excess deaths during the COVID-19 period might be largely underestimated, with 2.74-fold more cases than what has been reported.¹³⁾

To deliver critical information during the pandemic and facilitate scientific advancements against COVID-19, most academic journals have conducted fast-track peer-reviewing and prioritized the publication of articles on the disease. Consequently, the volume of articles in the field has been massive and the impact factors of major medical journals have been affected by substantial changes from such an irregular pattern of publication. AGMR has published 14 articles on COVID-19 until last September, contributing to an increase in the Scopus impact score to 2.7. However, in the webinar, the participants discussed the need to focus more on the paper quality. We should always remember the reasons for the publication. The increasing number of misconduct reports and retractions should be considered in terms of quality assurance and ethical eligibility of journals.¹⁴⁾ Academic journals must focus on major research topics to facilitate the post-pandemic era. In addition, the importance of navigating between the unique Asian perspectives and the international outlooks of the geriatric care cannot be overemphasized due to the different consequences and outcomes generated by the pandemic in the different regions.¹⁵⁾

As we approach the end of the pandemic, it is time to rethink how resilience can be promoted and geriatric care be developed in this new world. Since older age represents a critical risk factor for infectious diseases, we should explore the specific phenotypes and main mechanisms of immunosenescence responsible for the onset of severe forms of diseases in older adults. Further research is needed to identify the main immune-related indicators that can predict disease severity. During a public health crisis, what are the long-term effects of the decline and worsening of intrinsic capacity among older adults? Large-sized, multicenter, international, and prospective longitudinal cohort studies are necessary to observe and track health trajectories and predict future risks and consequences. Strategic plans to mitigate the negative consequences of future pandemics should be introduced, with evidence supporting

the feasibility and effectiveness of specific interventions. In addition, the ongoing status and plausible causes for the excess deaths in the older population during the COVID-19 period, and the needs in the geriatric and gerontologic fields to minimize such events are critical points to explore to prepare adequate countermeasures in the case of a future public health crisis. Epidemiological studies and policy-driven approaches to this issue should be highlighted in the post-pandemic era.

Furthermore, it is important to note that COVID-19 has substantially reshaped the older population in three major ways: (1) the frailest died, (2) survivors who were infected may have been experiencing an acceleration of their aging process, and (3) those who were not infected have still suffered from the social restrictions and limited access to care. In other words, this post-pandemic older population is a different one compared to the pre-pandemic. Therefore, these aspects should be considered for future clinical and research activities. For example, is a cohort/biobank of older persons generated in the pre-pandemic period still valid to explore specific biological or clinical manifestations? The results should be carefully read and interpreted. Similarly, should the recruitment of participants between those who have experienced the disease compared with those who have not be differentiated? This is a salient consideration, given the different life experiences and biological/clinical consequences.

CONCLUSION

The COVID-19 pandemic has highlighted the importance of geriatric and gerontological research to address the unique needs of older adults. The challenges posed by the pandemic, such as disruption of the routine management of chronic diseases and physical inactivity worsening physical function, have led to poor health outcomes in older adults. Bouncing forward and improving the health outcomes of older adults in the post-pandemic future requires understanding and addressing these challenges through research and evidence-based approaches. In addition, the pandemic has highlighted the need for better preparedness and response to future infectious diseases as well as the need for more robust and resilient healthcare systems that can adapt to new challenges. By addressing these issues, we can ensure that older adults are better equipped to cope with future challenges and to maintain their health and well-being.

As we are on the verge of a paradigm shift towards a post-pandemic future, AGMR especially welcomes any type of review and original research raising questions and providing answers to the above-raised issues. Special issues in the upcoming year will provide an effective way for in-depth discussions and contribute to

post-pandemic recovery.

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CONFLICT OF INTEREST

The researchers claim no conflicts of interest.

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