Perspectives

Promote COVID-19 Vaccination for Older Adults in China

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The coronavirus disease 2019 (COVID-19) vaccine effectively reduces the possibility of severe illness and mortality in older adults and is essential for controlling the epidemic. Compared with developed countries, the coverage of full vaccination and booster vaccination for older adults aged 60 or above in China is poor, making it urgent to accelerate their vaccination in China. We discussed potential reasons for low vaccination coverage for older adults aged 60 or above and presented strategies to promote their COVID-19 vaccination in China.

As of July 2022, COVID-19 has caused more than 560 million cases and 6 million deaths worldwide (*1*). Compared with other age groups, older adults aged 60 or above are at a higher risk of severe illness and death after COVID-19 infection due to weak immune function and comorbidities (*2*). China began opening COVID-19 vaccination for older adults in April 2021, following the first phase of emergency vaccination for people in high-risk and critical positions and the second phase of mass vaccination for adults aged 18–59. The COVID-19 vaccine is available for free regardless of residency. Although the government emphasized promoting vaccination for older adults at the end of 2021, COVID-19 vaccination coverage continued inching upward but at a slowing rate from January to June 2022, especially for a booster vaccination (Figure 1). As of August 10, 2022, the full vaccination rate was 85.6% and the booster vaccination coverage was only 67.8% for older adults in China, that were lower than those in countries like the United States (92.1%, 70.7%), Germany (91.2%, 85.9%), and Japan (92.4%, 90.3%). The Omicron wave in Shanghai and nationwide further highlights the urgency of vaccination for older adults.

In China, the poor vaccination coverage among older adults is found for COVID-19 vaccine as well as general routine vaccines. There is usually insufficient awareness of general vaccines among older adults. Prior to the COVID-19 pandemic, there was a lack of publicity about vaccination and vaccines were generally self-paid for older adults, leading to low awareness and coverage of general vaccines. The coverage of influenza and pneumonia vaccines is only 6.6% and 1.2% among older adults, respectively (*3*–*4*). Additionally, institution-based nursing care would improve the efficiency of vaccination services; while in China, most older adults live at home and only about 3% live in nursing homes (*5*). The relatively scattered home-dwelling elderly present inconveniences and barriers to vaccination services. More importantly, there is a separation of clinical services and preventive services such as vaccination, and general practitioners (GPs) are not involved in vaccination services in China. Although GPs provide vaccination services in most countries, it is only delivered by dedicated vaccinators at community vaccination clinics in China (*6*). The GPs have close contact with older adults and are familiar with their health status, but in China they have no responsibility for vaccination advocacy and services including COVID-19 vaccination. Ambiguous statements in guidelines regarding COVID-19 vaccination contraindications for older adults further make it difficult for vaccinators to assess the vaccination eligibility of the older adults with underlying diseases (*7*). Many vaccinators are even reluctant to recommend or provide vaccination services for older adults due to insufficient disclosure of adverse events following immunization (AEFI) and a lack of effective protection for themselves.

COVID-19 vaccine hesitancy has spread worldwide including in China (*8*–*9*). Chinese older adults have more concerns on the effectiveness and safety of COVID-19 vaccines than other age groups. Due to under-enrollment of Chinese older adults in clinical trials of inactivated COVID-19 vaccines, there is insufficient evidence of its efficacy and safety for Chinese older adults at the early stage of COVID-19 vaccine campaign. However, real-world data from the Omicron wave in Hong Kong Special Administrative Region (SAR) in early 2022 show that both the BNT162b2 mRNA and CoronaVac vaccines are over 95% effective against the most severe/lethal COVID-19 in all older age groups when used as recommended in three doses and are not distinguishable from each

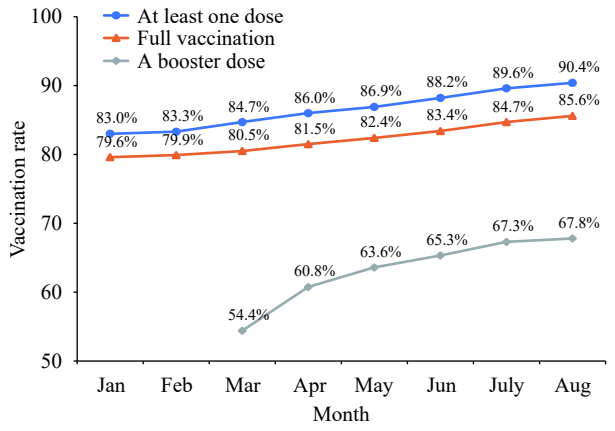

FIGURE 1. Percentages of Chinese older adults completing COVID-19 vaccination from January to August 2022.
Note: Data were extracted from the State Council Information Office of the People's Republic of China.
Abbreviation: COVID-19=coronavirus disease 2019.

other (*10*). In addition, the AEFI surveillance system from China CDC shows that there are even fewer adverse effects following CoronaVac vaccination in older adults than in other age groups (*11*). Therefore, older adults in China should get fully vaccinated and boosted as soon as possible, with no reason to wait for a different vaccine.

Omicron waves in Shanghai, Hong Kong SAR, and other regions have largely increased the perceived risk of COVID-19 infection and the public awareness of COVID-19 vaccination. To promote the COVID-19 vaccination among older adults, it is critical to shift the vaccination sequence to prioritize older adults as the vaccination population. Since the presence of chronic conditions does not lead to additional side effects of COVID-19 vaccination and no evidence shows that COVID-19 vaccination would affect chronic disease control, older adults with chronic conditions should be given the priority of vaccination (*12*). As for other specific vaccine contraindications, timely clarification in the guidelines is essential for assessing vaccination eligibility. Additionally, allowing the GPs to engage in vaccination campaigns for older adults might be another helpful strategy. GPs should be allowed the responsibility for and participation in COVID-19 vaccination eligibility assessment, vaccine recommendation and appointments. Targeted health education and door-to-door vaccination services should also be promoted for the home-dwelling elderly.

The AEFI surveillance system should also be improved to timely inform older adults. In China, the AEFI surveillance system is limited to reports from vaccination clinics, healthcare facilities, CDCs, and vaccine manufacturers, but is not accessible to the public (*13*). In contrast, the Vaccine Adverse Event Reporting System (VAERS) in the US accepts the AEFI reports from healthcare professionals, vaccine manufacturers, as well as the public (*14*). The additional layer of safety monitoring, V-safe, captures registrants' feelings after COVID-19 vaccination through text messages and web-based surveys (*15*). China should receive reports from the public on AEFIs and release AEFIs data regularly to effectively reduce public concerns.

Finally, an additional vaccination accident insurance besides basic insurance for AEFIs may be a policy option for addressing older adults' concerns on the safety of COVID-19 vaccines. There are two forms of compensation for serious adverse events associated with COVID-19 vaccine internationally: one is for commercial insurance companies to act as insurers, such as the no-fault compensation program for COVID-19 vaccines in 92 low and middle-income countries, and the other is for the government to pay compensation as insurers, like severe side effect insurance of COVID-19 vaccine in Thailand (*16*–*17*). In China, commercial insurance companies have designed additional insurance for AEFIs, but the public needs to pay premiums themselves, and some of them exclude older adults. Our survey from older adults and their family members found that among the vaccine-hesitant groups, 51% would increase the willingness of COVID-19 vaccination following the provision of additional insurance with government subsidies, with 43% no changes and 6% reductions in vaccination willingness. This result suggests that the government's assistance in paying premiums for older adults could help remove barriers to insurance and reduce vaccine hesitancy.

CONCLUSION

In the context of the global Omicron pandemic and the low coverage of full and booster vaccination of older adults in China, there is an urgent need to accelerate the process of COVID-19 vaccination of older adults. Strategies such as making older adults a priority vaccination population, paying attention to home-dwelling older adults, allowing GPs to participate in vaccination campaigns, developing domestic mRNA vaccines, improving the AEFI surveillance system in China, and providing additional COVID-19 vaccination accident insurance could serve

as effective measures to promote COVID-19 vaccination for older adults in China.

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