



What we need for COVID-19 post-acute care

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The coronavirus disease 2019 (COVID-19) pandemic has strongly impacted the world for the last 2 years and its related effects will continue despite the development of its vaccines and pharmaceuticals [1–5]. As a novel disease, the pathophysiology leading to respiratory failure and other complications, disease course, and treatment responses of COVID-19 remain unclear, not to mention the long-term effects of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections and subsequent outcomes of COVID-19 survivors. Growing evidence indicated that COVID-19 involved multiple organ systems in addition to the respiratory system. Carfi et al. reported that 87.4% of post-acute COVID-19 patients presented with certain symptoms of which fatigue, dyspnea, and joint pain were major leading ones [6]. Another study in China included 1733 patients (median age of 57 years) who survived COVID-19, and found that weakness, sleep difficulties and anxiety or depression remained to be challenges in daily living 6 months after COVID-19 hospitalizations [7]. The “Post-COVID Syndrome” has been proposed to specify persistent symptoms related to residual inflammation, organ damages, and non-specific effects from the hospitalizations or prolonged ventilation, social isolation, or impacts on pre-existing health conditions [8]. Under such circumstances, older adults with multimorbidity, frailty or cognitive impairment

are especially vulnerable to post-COVID syndrome. A systematic review showed that COVID-19 survivors were highly likely to have impaired physical function, which may be improved by a combined aerobic and resistance training intervention in the post-infectious period [9]. Moreover, neuropsychological symptoms of apathy, executive deficits, impaired cognitive control, and reduction in global cognition have been reported in post-COVID patients, which suggested potential neurological damages by SARS-CoV-2 infections [10]. Based on the above-mentioned conditions, developing post-acute care (PAC) services for post-COVID patients is important, but the nature may differ from current PAC services due to the special pathological characteristics of COVID-19.

In the current issue of *European Geriatric Medicine*, van Haastregt et al., introduced the EuGMS guidance for the management of post-acute COVID-19 patients [11]. The guidance was developed based on the Dutch guidelines with input from other European countries. Overall, the guidance comprehensively addressed the scenarios of COVID-19 PAC services and recommendations. However, COVID-19 PAC may need to be specifically tailored to target functional and cognitive impairments in post-acute COVID-19 patients. There is still a lack of evidence regarding the syndrome of long COVID in older adults that is crucial for formulating guidelines. Hence, continuous efforts are needed to update the guidance when more clinical data are available. The real challenge to the guidance is whether these services can be effectively provided during the pandemic because of the potential lack of care facilities and resources, as well as the reluctance of older patients and their caregivers to attend hospitals or facilities. More public health policy development and financing designs are needed to tackle the needs for prolonged health challenges specifically related to SARS-CoV-2 infections and other common PAC needs subsequent to hospitalizations. The implementation of COVID-19 PAC services also requires successful development of geriatric medicine, although some less well-developed countries may need alternative approaches to cope with the challenges. The United Kingdom Defense Medical Rehabilitation Centre

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published the Stanford Hall Consensus statement for post-COVID-19 rehabilitation that recommended rehabilitation for potential symptoms by organ systems [12]. However, as indicated in the consensus statement, long-term effects of COVID-19 and PAC effects remained uncertain. In contrast to PAC of other conditions, specific infection controls may be needed in COVID-19 PAC services, because 7–23% of patients who recovered from SARS-CoV-2 infections may show recurrent RNA positivity [13], although it does not always indicate the infectivity of the patient. Therefore, COVID-19 PAC services need to be equipped with standardized infection control measures to avoid potential disease transmission. Moreover, vaccination is another challenge in COVID-19 PAC services, because the timing vaccination of these patients are not well standardized and they are also the vulnerable groups for vaccine-related adverse events [14]. Therefore, the recommendations of the guidance need to be updated to keep pace with the rapidly developing body of knowledge regarding the post-acute phase of the disease.

Declarations

Conflict of interest All authors declare no conflict of interest.

Ethical approval The article does not contain any studies with human participants or animals performed by any of the authors.

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