


Physical and social isolation during COVID-19 – How did it impact the functional status of people with advanced respiratory disease?

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On 11 March 2020 the World Health Organization declared the COVID-19 outbreak a pandemic. Since then, there have been more than 210 million cases and four million deaths worldwide.¹ While the consequences of COVID-19 are serious for a significant proportion of the general population, individuals with risk factors including advanced age and comorbid conditions such as cancer, cardiovascular disease, diabetes and chronic respiratory disease are more likely to have severe symptoms and fatal outcomes from COVID-19.²

Although chronic respiratory disease is a risk factor for severe symptoms of COVID-19 and poor prognosis, several studies have demonstrated that individuals with chronic respiratory disease are underrepresented among hospitalized patients with COVID-19.^{2–6} A recent French retrospective cohort study⁷ showed that individuals with prior respiratory diseases, particularly those with asthma and chronic obstructive pulmonary disease, were less likely to be hospitalized for COVID-19 than for influenza. However, they were at higher risk for developing severe COVID-19 and had a higher mortality rate compared to influenza patients and patients without a history of respiratory illness.⁷ The low proportion of patients with chronic respiratory disease among hospitalized patients with COVID-19 may have different explanations. These vulnerable individuals may have been more vigilant and followed lockdown instructions assiduously. In addition, the use of corticosteroids may have protected them against COVID-19, and the decrease in air pollution during the lockdown period may have prevented lung disease exacerbation, including exacerbation of COVID-19.⁷ Nevertheless, public health authorities in many countries have considered

individuals with chronic respiratory disease as a vulnerable population and emphasized the importance of social and physical isolation in this group. While the public health authorities' intention was to keep these individuals as safe as possible, the unintended consequences may have been a reduction in physical activity, increase in sedentary behaviour and in mental health issues.^{8,9} All of this may have exposed these individuals to further deterioration of their health and functional status as well as to increased disability.¹⁰ Importantly, in addition to the increased risk of developing severe symptoms and increased mortality,^{2,7} during the lockdown periods, many individuals with chronic respiratory disease were denied access to medical care and rehabilitation services which put them at a disadvantage in maintaining their general health and functional status.^{10,11}

In this issue of the Chronic Respiratory Disease Journal, Fettes and colleagues¹¹ provided important data on the

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relationship between physical and social isolation during the COVID-19 pandemic and physical inactivity and disability in activities of daily living (ADLs) among people with advanced respiratory disease. The authors reported baseline data of 201 patients from a prospective cohort study conducted in the United Kingdom. They recruited from 12 sites across England between July 2020 and January 2021 which included hospital medical, respiratory or oncology wards; outpatient lung cancer or respiratory clinics; and hospice/palliative care inpatient, outpatient and community services. During this period, most participants had received a letter of request from the British Government to strictly physically and socially isolate because of their disease. The authors collected 'time spent in physical and social isolations' by asking patients whether they were or had been physically or socially isolating and for how long. 'Change in physical activity' was measured using a 5-point Likert scale (a lot less, a little less, no change, a little more or a lot more in physical activity inside and outside the home). 'Disability in carrying out basic ADLs' was measured using the Barthel index, and 'Disability in carrying out instrumental ADLs' was measured using the Lawton–Brody IADL scale. 'Difficulty in managing daily activities' was measured using the World Health Organization Disability Assessment Schedule.

The authors found that physical and social isolation was very common among participants which resulted in lower levels of physical activity particularly outside the home. The study also noted that disability in ADLs was prevalent among participants and that even those who said they were fully independent had difficulty in maintaining their independence in their daily activities. In addition, a multivariate analysis (adjusted for months spent in physical and social isolation, diagnosis, age, gender, living status and symptom severity) showed that disability in basic ADLs was related to prolonged physical and social isolation and that both basic ADLs and IADLs were independently related to non-malignant respiratory disease and increased symptom severity. Importantly, only 10% and 5% of participants received physiotherapy or occupational therapy interventions, respectively, within the month prior to the survey.¹¹

The findings described in this article reinforce issues raised by a recent commentary on disability and COVID-19 written by the consortium 'United Nations workstream on COVID-19 disability inclusive health response and recovery'.¹⁰ However, this article does provide important data on the impact of physical and social isolation on disability specifically in individuals with advanced respiratory disease. In addition, this article raises awareness that rehabilitation demand will probably increase among these not-well-treated and low-functioning individuals.

The COVID-19 pandemic has created a time of uncertainty with limited access to relevant information and

disruption of healthcare and social services which has impacted people with comorbid and disabilities disproportionately.¹⁰ In addition to the recommendations of the health authorities about social and physical isolations in vulnerable populations at the beginning of the pandemic, individuals with chronic respiratory disease may have independently decided to isolate completely as it was unknown how COVID-19 infection would impact the pathology of their lung diseases. Rehabilitation services were closed for months which may have accelerated functional decline of these individuals. Finally, as the authors also noted, social care was disrupted worldwide which made patients rely on non-professional carers who were not always readily available and therefore aggravated their situation and contributed to disability.^{12,13}

Nevertheless, the pandemic has provided an opportunity to reflect upon the rights and needs of persons with chronic diseases and/or disabilities and to create an improved and more equitable healthcare system. The authors concluded that health and social care services will need to consider rehabilitation of those deemed clinically vulnerable as well as of those recovering from COVID-19.¹¹ The authors identified several risk factors to help identify the need for rehabilitation of individuals with chronic respiratory disease including (1) length of time spent in physical and social isolation, (2) presenting difficulty with and not only disability in daily activities, (3) symptom severity and (4) level of social support. They also proposed some strategies to prevent a further decline in disability in this population in case of a future pandemic: (1) minimize time spent in isolation, (2) maintain physical activity, (3) continue rehabilitation services or/and offer online alternatives, and (5) increase social support. This pandemic has undoubtedly been a world crisis on an unprecedented scale, but I am looking forward to the advances in research and clinical services to build a more equitable healthcare system worldwide.

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References

1. World Health Organization. WHO Coronavirus (COVID-19) dashboard, Website: <https://covid19.who.int/> (Accessed on 29 July 2021).

2. Guan Wj, Liang Wh, Zhao Y, et al. Comorbidity and its impact on 1590 patients with COVID-19 in China: a nationwide analysis. *Eur Respir J* 2020; 55: 2000547. DOI: [10.1183/13993003.00547-2020](https://doi.org/10.1183/13993003.00547-2020).
3. Goyal P, Choi JJ, Pinheiro LC, et al. Clinical characteristics of Covid-19 in New York City. *New Engl J Med* 2020; 382: 2372–2374. DOI: [10.1056/NEJMc2010419](https://doi.org/10.1056/NEJMc2010419).
4. Halpin DMG, Faner R, Sibila O, et al. Do chronic respiratory diseases or their treatment affect the risk of SARS-CoV-2 infection? *Lancet Respir Med* 2020; 8: 436–438. DOI: [10.1016/S2213-2600\(20\)30167-3](https://doi.org/10.1016/S2213-2600(20)30167-3).
5. Oh TK and Song IA. Impact of coronavirus disease-2019 on chronic respiratory disease in South Korea: an NHIS COVID-19 database cohort study. *BMC Pulm Med* 2021; 21: 12. DOI: [10.1186/s12890-020-01387-1](https://doi.org/10.1186/s12890-020-01387-1).
6. Wee LE, Conceicao EP, Tan JY, et al. Reduction in asthma admissions during the COVID-19 pandemic: consequence of public health measures in Singapore. *Eur Respir J* 2021; 57: 2004493. DOI: [10.1183/13993003.04493-2020](https://doi.org/10.1183/13993003.04493-2020).
7. Beltramo G, Cottenet J, Mariet AS, et al. Chronic respiratory diseases are predictors of severe outcome in COVID-19 hospitalised patients: a nationwide study. *Eur Respir J* 2021. DOI: [10.1183/13993003.04474-2020](https://doi.org/10.1183/13993003.04474-2020).
8. Hall G, Laddu DR, Phillips SA, et al. A tale of two pandemics: How will COVID-19 and global trends in physical inactivity and sedentary behavior affect one another? *Prog Cardiovasc Dis* 2021; 64: 108–110.
9. Puccinelli PJ, da Costa TS, Seffrin A, et al. Reduced level of physical activity during COVID-19 pandemic is associated with depression and anxiety levels: an internet-based survey. *BMC Public Health* 2021; 21: 425–2021. DOI: [10.1186/s12889-021-10470-z](https://doi.org/10.1186/s12889-021-10470-z).
10. Consortium "United Nations workstream on C-dihr, recovery, Cieza A, Kamenov K, et al. Disability and COVID-19: ensuring no one is left behind. *Arch Public Health* 2021; 79: 148. DOI: [10.1186/s13690-021-00656-7](https://doi.org/10.1186/s13690-021-00656-7).
11. Fettes L, Bayly J, de Bruin LM, et al. Relationships between prolonged physical and social isolation during the COVID-19 pandemic, reduced physical activity and disability in activities of daily living among people with advanced respiratory disease. *Chronic Respir Dis* 2021; 18: 14799731211035822. DOI: [10.1177/14799731211035822](https://doi.org/10.1177/14799731211035822).
12. Negrini S, Grabljevec K, Boldrini P, et al. Up to 2.2 million people experiencing disability suffer collateral damage each day of COVID-19 lockdown in Europe. *Eur J Phys Rehabil Med* 2020; 56: 361–365.
13. Pécout C, Pain E, Chekroun M, et al. Impact of the COVID-19 Pandemic on Patients Affected by Non-Communicable Diseases in Europe and in the USA. *Int J Environ Res Public Health* 2021; 18, 6697. DOI: [10.3390/ijerph18136697](https://doi.org/10.3390/ijerph18136697).