



EDITORIAL

COVID-19 will severely impact older people's lives, and in many more ways than you think!

Introduction

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, also known as Coronavirus Disease 2019 (COVID-19) will severely impact older people's lives. COVID-19 can lead to pneumonia, acute respiratory distress syndrome, and other health problems that can lead to poor prognoses, including death, especially in older people.^{1,2} Environmental contamination has been identified as a route of transmission of COVID-19,³ and for this reason, governments worldwide have been initiating quarantine measures that include keeping older people in "social isolation" to slow the transmission of the infection. These measures have a special focus of protecting older people.

Is social isolation the best measure to protect older people's lives?

There is emerging evidence that suggests that social isolation might be an important measure to protect against COVID-19 infections.⁴ However, this may be a "two edge sword". As we have known well before the pandemic, there are negative consequences of social isolation for older people.

Physical activity

Both incidental and planned physical activity are likely to decrease in all people with social distancing, but the consequences will be greater for older people due to their compromised cardiorespiratory fitness, and reduced muscle strength and muscle mass.⁵

Mental health

A recent study by Esain et al.⁶ showed that 3 months of detraining (i.e. no physical exercise) led to a decline in

not just physical functioning, but also in mental health and quality of life (QoL) in physically active older people. Such adverse consequences may be even greater in older individuals who are sedentary or in poor health.

Lack of social connection and neighborhood engagement may also contribute to increased risk of mental disorders due to loneliness, especially in those who live alone.⁷ Social isolation has such negative impact, that it remains a strong risk factor for increased mortality in older people after adjusting for demographic and health factors.⁸

Being at home is not good medicine

Staying at home can lead to additional health problems. For example, a lack of exposure to sunshine can lead to Vitamin D deficiency in older people.⁹ Consequently, the immune system can be compromised and infections can occur at a higher frequency, in addition to an increased risk of falling.⁹ Confined home environments can also lead individuals with balance and mobility impairments, such as those with Parkinson's disease and dementia, to experience falls.¹⁰ Finally, poor access to physical exercises, when combined with illnesses, fear of falling, and poor motivation can lead to an entrenched sedentary lifestyle,¹¹ and in subsequent declines in both physical and mental health.⁵ Therefore, while still unknown, the effects of social isolation during the COVID-19 pandemic lockdown on older people may be substantial.

Falls – this is why we are so concerned!

Lack of Vitamin D, depression, illness and associated polypharmacy, cognitive decline, loneliness, decline in physical activity levels, and increased body mass,^{5,7,9,12,13} all negative consequences of social isolation, can increase the risk of falls in older people. A fall at home can lead to serious injuries such as fractures and head trauma, as well as undermine balance confidence and induce excessive fear of falling. For older people who live alone, there is also the risk

of a fall-related long lie, i.e. remaining on the floor for 24 h or more following the fall. As could be expected, such a fall-related consequence is a risk factor for significant morbidity and death.

Further work to be done

Extensive public health research will be required to determine the extent to which social isolation during the current extensive quarantine periods will adversely affect older people as well as what factors mitigate against such adverse effects. Important questions include: (i) how can we provide physical activity during social isolation? (ii) how can we enhance individuals' quality of life after social isolation is over? and (iii) how can we prepare ourselves in case a new wave of COVID-19 or another pandemic occurs?

However, a number of evidence-based initiatives can be implemented without delay. Physicians and allied-health professionals can use telemedicine to provide consultations, assessments, and interventions.¹⁴ As long as the clients have (i) a mobile device or a tablet; (ii) high-speed internet; (iii) a home area clear of obstacles to exercise; (iv) and an assistant or an auxiliary device to help with balance; appropriate exercise interventions and physical assessments can be delivered. There is good evidence that home-based exercise programs can be conducted safely and can enhance quality of life and reduce the risk of falls in older people.¹⁵ Finally, occupational therapy interventions involving removal of environmental hazards along with counseling regarding safe mobility in the home may also help prevent falls in at-risk individuals.

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Conflicts of interest

The authors declare no conflicts of interest.

References

1. Garnier-Crussard A, Forestier E, Gilbert T, Krolak-Salmon P. Novel coronavirus (COVID-19) epidemic: what are the risks for older patients? *J Am Geriatr Soc.* 2020; <http://dx.doi.org/10.1111/jgs.16407>.
2. Pinto TF, Carvalho CRF. SARS CoV-2 (COVID-19): lessons to be learned by Brazilian Physical Therapists. *Braz J Phys Ther.* 2020;24(3):185–186.
3. Ong SWX, Tan YK, Chia PY, et al. Air, surface environmental, and personal protective equipment contamination by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from a symptomatic patient. *JAMA.* 2020;323(16):1610–1612.
4. Lewnard JA, Lo NC. Scientific and ethical basis for social-distancing interventions against COVID-19. *Lancet Infect Dis.* 2020;20(6):631–633.
5. Bowden Davies KA, Pickles S, Sprung VS, et al. Reduced physical activity in young and older adults: metabolic and musculoskeletal implications. *Ther Adv Endocrinol Metab.* 2019;10, <http://dx.doi.org/10.1177/2042018819888824>.
6. Esain I, Gil SM, Bidaurazaga-Letona I, Rodriguez-Larrad A. Effects of 3 months of detraining on functional fitness and quality of life in older adults who regularly exercise. *Aging Clin Exp Res.* 2019;31(4):503–510.
7. Gyasi RM, Yeboah AA, Mensah CM, Ouedraogo R, Addae EA. Neighborhood, social isolation and mental health outcome among older people in Ghana. *J Affect Disord.* 2019;259:154–163.
8. Steptoe A, Shankar A, Demakakos P, Wardle J. Social isolation, loneliness, and all-cause mortality in older men and women. *Proc Natl Acad Sci U S A.* 2013;110(15):5797–5801.
9. Boucher BJ. The problems of vitamin d insufficiency in older people. *Aging Dis.* 2012;3(4):313–329.
10. Pelicioni PHS, Menant JC, Latt MD, Lord SR. Falls in Parkinson's disease subtypes: risk factors, locations and circumstances. *Int J Environ Res Public Health.* 2019;16(12), <http://dx.doi.org/10.3390/ijerph16122216>, pii:E2216.
11. Moraes SA, Furlanetto EC, Ricci NA, Perracini MR. Sedentary behavior: barriers and facilitators among older adults after hip fracture surgery. A qualitative study. *Braz J Phys Ther.* 2019, <http://dx.doi.org/10.1016/j.bjpt.2019.07.001>.
12. Menant JC, Wong AK, Trollor JN, Close JC, Lord SR. Depressive symptoms and orthostatic hypotension are risk factors for unexplained falls in community-living older people. *J Am Geriatr Soc.* 2016;64(5):1073–1078.
13. Perez-Ros P, Martinez-Arnau FM, Orti-Lucas RM, Tarazona-Santabalbina FJ. A predictive model of isolated and recurrent falls in functionally independent community-dwelling older adults. *Braz J Phys Ther.* 2019;23(1):19–26.
14. Dantas LO, Barreto RPG, Ferreira CHJ. Digital physical therapy in the COVID-19 pandemic. *Braz J Phys Ther.* 2020, <http://dx.doi.org/10.1016/j.bjpt.2020.04.006>.
15. Delbaere K, Valenzuela T, Woodbury A, et al. Evaluating the effectiveness of a home-based exercise programme delivered through a tablet computer for preventing falls in older community-dwelling people over 2 years: study protocol for the Standing Tall randomised controlled trial. *BMJ Open.* 2015;5(10):e009173, <http://dx.doi.org/10.1136/bmjopen-2015-009173>.

Paulo H.S. Pelicioni^{a,b,*}, Stephen R. Lord^{a,b}

^a Neuroscience Research Australia, New South Wales, Australia

^b School of Public Health and Community and Medicine, University of New South Wales, New South Wales, Australia

* Corresponding author at: Neuroscience Research Australia, Barker Street, Randwick, N.S.W. 2031, Australia.
E-mail address: p.pelicioni@neura.edu.au (P.H. Pelicioni).