



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



## Deprescribing in older adults during COVID-19 pandemic; Opportunity or risk?

### ARTICLE INFO

#### Keywords

Deprescribing  
Polypharmacy  
Frailty  
Personalized medicine

#### Dear Editor,

We have read with pleasure and attention the article “Barriers to conducting deprescribing in the elderly population amid the COVID-19 pandemic” by Elbeddini and colleagues recently published in *Research in Social and Administrative Pharmacy*.<sup>1</sup> In this very interesting and topical research, the authors analyzed deprescribing barriers, especially in elderly population, prior and linked to SARS-Cov2 infection.

Elderly patients are at a higher risk of recurrent hospitalizations, with consequent complications, such as SARS-CoV-2 (COVID-19) infection. Polypharmacy is associated with several adverse outcomes, including hospitalization, length of hospital stay, and mortality.<sup>2</sup> The COVID-19 pandemic underscores the relevance of continuous prescriber education and development of research studies on deprescribing.<sup>1</sup>

In a previous study<sup>3</sup> we documented that polypharmacy (5–9 drugs), and excessive polypharmacy ( $\geq 10$  drugs) are common among home care patients and that factors associated with polypharmacy status include not only co-morbidity but also specific symptoms and age.<sup>4</sup> Moreover, a study recently reported<sup>3</sup> that drugs are commonly involved in the determination of geriatric syndromes (e.g. falls, delirium, and urinary incontinence), common in nursing home residents and home care clients, by a mechanism of “drug–geriatric syndrome interaction” which occurs when a drug prescribed to treat one condition subsequently exacerbates coexisting chronic conditions.<sup>5</sup> In this perspective, having evidence-based deprescribing guidelines for frail older adults could be very useful.<sup>1</sup>

As such, it would be clinically relevant and interesting for medical research knowing the complete drug therapy that patients in the study population are taking. In fact, angiotensin converting enzyme (ACE) inhibitors have demonstrated to protect against cardiovascular events and reduce the incidence of type II diabetes,<sup>6</sup> to have several potential beneficial effects<sup>7</sup> in older adults with high cardiovascular risk profile and to have positive effects on skeletal muscle even in late-life.<sup>8</sup> This is particularly relevant considering that more critical patients affected by SARS-CoV-2 infection are often affected by comorbidities such as

diabetes, hypertension and cardiovascular diseases.<sup>1</sup>

Hospitalized older adults represent one of the frailest populations, considering the high prevalence of multimorbidity and polypharmacy. The concept of prevention assumes a different meaning in this context. In particular, as reported in a recent study, social interactions and family visits represent health detriments linked to lower mortality rate.<sup>4</sup> Physicians have to consider this particular condition during COVID-19 pandemic, where social distance is reduced from technology.<sup>9</sup> Prevention and deprescribing could be two important tools in the hands of geriatrics to manage the complexities of older adults, especially during a pandemic.

#### Author contributions

All authors contributed to and approved the final version of the manuscript.

#### Funding sources

None.

#### Funding

No specific funding has been received for this work.

#### Declaration of competing interest

The authors disclose no financial and personal relationships with other people or organizations that could inappropriately influence their work.

#### References

1. Elbeddini A, Prabakaran T, Almasalkhi S, Tran C, Zhou Y. Barriers to conducting deprescribing in the elderly population amid the COVID-19 pandemic. *Res Soc Adm Pharm*. 2020. <https://doi.org/10.1016/j.sapharm.2020.05.025>.

<https://doi.org/10.1016/j.sapharm.2020.11.016>

Received 25 November 2020; Accepted 25 November 2020

Available online 1 December 2020

1551-7411/© 2020 Elsevier Inc. All rights reserved.

2. Chen YZ, Huang ST, Wen YW, Chen LK, Hsiao FY. Combined effects of frailty and polypharmacy on health outcomes in older adults: frailty outweighs polypharmacy. *J Am Med Dir Assoc.* 2020.
3. Giovannini S, van der Roest HG, Carfi A, et al. Polypharmacy in home care in Europe: cross-sectional data from the IBenC study. *Drugs Aging.* 2018;35:145–152.
4. Vetrano DL, Villani ER, Grande G, et al. Association of polypharmacy with 1-year trajectories of cognitive and physical function in nursing home residents: results from a Multicenter European study. *J Am Med Dir Assoc.* 2018;19:710–713.
5. Onder G, Giovannini S, Sganga F, et al. Interactions between drugs and geriatric syndromes in nursing home and home care: results from Shelter and IBenC projects. *Aging Clin Exp Res.* 2018;30:1015–1021.
6. Giovannini S, Tinelli G, Biscetti F, et al. Serum high mobility group box-1 and osteoprotegerin levels are associated with peripheral arterial disease and critical limb ischemia in type 2 diabetic subjects. *Cardiovasc Diabetol.* 2017;16(1):99.
7. Giovannini S, Cesari M, Marzetti E, Leeuwenburgh C, Maggio M, Pahor M. Effects of ACE-inhibition on IGF-1 and IGFBP-3 concentrations in older adults with high cardiovascular risk profile. *J Nutr Health Aging.* 2010;14:457–460.
8. Marzetti E, Calvani R, DuPree J, et al. Late-life Enalapril administration induces nitric oxide-dependent and independent metabolic adaptations in the rat skeletal muscle. *Age (Omaha).* 2013;35:1061–1075.
9. Coraci D, Fusco A, Frizziero A, Giovannini S, Biscotti L, Padua L. Global approaches for global challenges: the possible support of rehabilitation in the management of COVID-19. *J Med Virol.* 2020;92(10):1739–1740.

Letizia Castelli<sup>1</sup>, Claudia Loreti<sup>1,\*</sup>, Daniele Coraci, Augusto Fusco  
*Neuroriabilitazione ad Alta Intensità, Fondazione Policlinico Universitario  
 A. Gemelli IRCCS, Rome, Italy*

Lorenzo Biscotti  
*Presiding Officer of Geriatric Care Promotion and Development Centre (C.E.  
 P.S.A.G), Università Cattolica del Sacro Cuore, Rome, Italy  
 Department of Aging, Neurological, Orthopaedic and Head-Neck Sciences,  
 Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy*

Silvia Giovannini  
*Department of Aging, Neurological, Orthopaedic and Head-Neck Sciences,  
 Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy*

Luca Padua  
*Neuroriabilitazione ad Alta Intensità, Fondazione Policlinico Universitario  
 A. Gemelli IRCCS, Rome, Italy  
 Department of Geriatrics and Orthopaedics, Università Cattolica del Sacro  
 Cuore, Rome, Italy*

\* Corresponding author. Fondazione Policlinico Universitario A.  
 Gemelli IRCCS, 00168, Rome, Italy.  
*E-mail address:* [claudia.loreti@policlinicogemelli.it](mailto:claudia.loreti@policlinicogemelli.it) (C. Loreti).

<sup>1</sup> These authors equally contributed to the paper.