



Challenges of the Elderly in the Period of COVID-19: A Review

Maryam Gholami¹, Abdolrahim Asadollahi², Masoumeh Ghodduji Johari³, Marzeye Farhadipour⁴, Foroozandeh Zaravar⁵, Ali Mohammad Keshtvarz Hesam Abadi^{6*}

¹Clinical Research Development Center of Nemazee Hospital, Shiraz University of Medical Sciences, Shiraz, Iran

³Department of Community Medicine, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

⁴Clinical Research Development Center of Nemazee Hospital, Shiraz University of Medical Sciences, Shiraz, Iran

⁵General Sciences Department, School of Paramedical Sciences, Shiraz University of Medical Sciences, Shiraz, Iran

⁶PhD candidate of Biostatistics, Department of Biostatistics, Shiraz University of Medical Sciences, Shiraz, Iran

Abstract

Introduction: Older adults were among the most vulnerable groups in the field of the COVID-19 pandemic because the cases of premature death in the outbreak of COVID-19 primarily occurred in Older Adults, which could be due to the weak immune system that allows faster progression of the viral infection. As the world is still in the grip of the COVID-19 pandemic, it is worthwhile to take swift action to reduce morbidity and protect the quality of life of the older population.

Methods: In this review study, studies published in Persian and English during 2020-2022 were examined in databases, and the findings were compared. The search keywords included were (Older Adults), (Covid-19), (problems), and (challenges). Based on the inclusion criteria, 6584 articles were included in the study, and after scientific reviews, 21 articles were finally included in the review study.

Results: Most of the assessed challenges were all kinds of restrictions in the fields of psychology, physicality, changes in residential conditions, changes in financial conditions, etc.

Conclusion: The resilience of Older Adults can be amazing if they are adequately cared for. The way the authorities treat their Older Adults during a disaster will shape how they deal with future crises, and the coronavirus era offers another opportunity for this issue. Due to the importance of the health of Older Adults in society, it is expected that other solutions suitable for these challenges will be presented, and it is recommended that further studies should be conducted to improve the conditions.

Keywords: Older Adults, COVID-19, Sociology

Article History:

Received: 30 December 2024

Accepted: 4 June 2025

Please cite this paper as:

Gholami M, Asadollahi A, Ghodduji Johari M, Farhadipour M, Zaravar F, Keshtvarz Hesam Abadi AM. Challenges of the Elderly in the Period of COVID-19: A Review. Health Man & Info Sci. 2025; 12(3): 131-138. doi: 10.30476/jhmi.2025.103685.1259.

*Correspondence to:

Ali Mohammad Keshtvarz Hesam Abadi,
Department of Biostatistics, Shiraz University of Medical Sciences, Shiraz, Iran.

Tel: +98 9176844955

Email: Alimohammad.keshtvarz@gmail.com

Introduction

In addition to life risks, COVID-19 has had severe economic, cultural, social, and psychological effects until today (1). Although this disease affects people of all ages, according to the World Health Organization, two groups are at greater risk, and the severity and complications of the disease will be greater in these two groups. These two groups include people over sixty years old and those with underlying diseases (2). According to the definition of the World Health Organization, most of the developed countries of the world have accepted the calendar age of "65" as the definition of "Older Adults", but there are many studies that have considered the age of "60" for developing countries (3). The coronavirus epidemic has created unprecedented challenges

and is a threat to humanity, especially the lives, relationships, and welfare of Older Adults. The long-term damage will be significant for the Older Adults living in a confined environment (4). Older Adults are considered a vulnerable group in the era of the COVID-19 pandemic. Because cases of premature death in the outbreak of COVID-19 have primarily occurred in Older Adults, this is probably due to the weak immune system that allows faster progression of viral infection (5). Social distancing can affect these people's mental health and increase the risk of psychiatric disorders (6). Studies across multiple continents have reported alarming rates of depression (12.8-36%), anxiety (15-28%), and loneliness (40-70%) among older adults during lockdown periods (7, 8). With a rapidly aging world, when there are

more people over the age of 60 than children under the age of five (9), ensuring the all-around safety of the Older Adults during such biological disasters is very important. So, this study aimed to highlight the solutions for this challenge by reviewing the problems of Older Adults during the COVID-19 pandemic. Although the World Health Organization has declared the end of the COVID-19 emergency, it is necessary to examine the challenges and find solutions for them in order to reduce the problems in similar pandemics.

Methods

In this review, the studies published in the Farsi and English languages during 2020-2022 in ISI Web of Knowledge, Science Direct, PubMed, Google Scholar databases, Scholar, SCOPUS, Civilica, and Magiran were investigated, and the findings were compared. Keywords selected for the search were Older Adults, Covid-19, problems, and challenges.

Selection of an Article

The inclusion criteria for this study were: 1) original article, 2) Use of the keywords determined in the title and abstract of the articles, 3) Access to the full text of articles, 4) topics related to the problems of the Older Adults during the Corona era, 5) articles in the Farsi or English languages,

6) the use of quantitative or qualitative or mixed research methods.

Exclusion criteria: 1) access to the abstract only, 2) duplicate studies, 3) evidence found in the form of books and electronic portals, and 4) insufficient connection with the subject under investigation

The articles that met the criteria for entering the study were coded and compared. Figure 1 shows the process of selecting studies. In general, the keyword search identified 6584 documents, including books, articles, and websites from databases. After removing the records in the form of books, electronic portals, and articles with unrelated topics, 108 records remained. Based on the review of abstracts, 46 articles remained. A total of 25 articles were excluded due to a lack of matching the topic. Finally, 21 articles were included in this study.

Results

From the 22 selected articles, most of them were of research type. Most of the studies were conducted in Iran and America (three studies in Iran and three studies in America), and the rest were conducted in countries such as China, England, etc. 12 articles (55%) were published in 2020, 8 in 2021 (36%), and 2 (9%) in 2022 (Table 1).

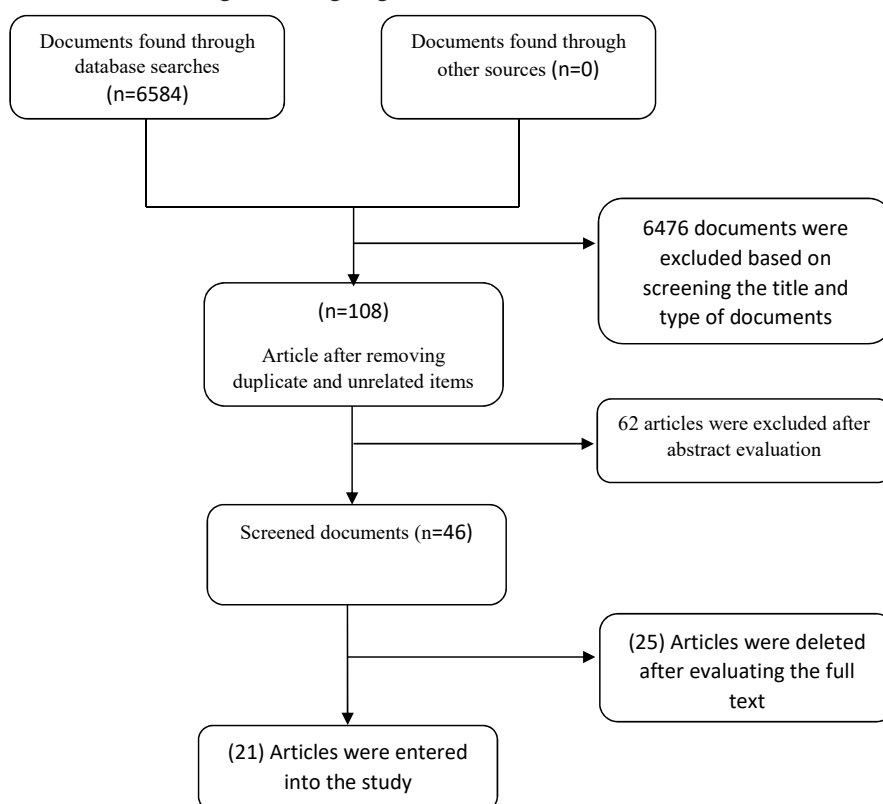


Figure 1: Flow Chart of the Article Selection Process

Table 1: Details of Articles Included in the Review

Author/ year	Objective	Results	Country
Olyani et al. (10)	Assess SWB, and investigate the risk factors associated with declined SWB in the Older Adults during the COVID-19 pandemic (400 older adults)	Low mental well-being was observed in 71.2 percent of the Older Adults. Factors such as loneliness, chronic illness, and physical inactivity were related to low well-being.	Iran
Kai Liu et al. (11)	Clinical features of COVID-19 in Older adult patients: A comparison with young and middle-aged patients (56 patients)	Among hospitalized cases of COVID-19 showed that the Older Adults group (above 55 years) showed increased duration of hospital stay, delayed clinical recovery, increased lung involvement, faster progression of the illness, and eventually increased fatalities	China
Alexandru Burlacu et al. (12)	Identify and describe as many aspects as possible (e.g., medical, social, psychological, and religious issues), indirectly generated by the COVID-19 lockdown, which affect both the life and the quality of life of the elderly.	Social isolation disproportionately affects Older Adults, transforming it into a public health concern. Fear has led to anxiety disorders and depression.	
Debanjan Banerjee et al. (13)	glances at the unique challenges faced by the aged, the social implications, and attempts to highlight the ways forward.	Besides being prone to isolation, loneliness, stress, grief, depression, and anxiety during the lockdown, the seniors are also victims of stigma, prejudice, and abuse, stemming from agism. Elder abuse in every form has been particularly concerning during the present pandemic. Especially those staying alone, those with sensory or cognitive impairment, and those institutionalized are at a greater risk	India
Bei Wu. (14)	Social isolation and loneliness among older adults in the context of COVID-19	Social isolation and loneliness are likely to become major risk factors that affect older adults' health outcomes	USA
Arpino et al. (15)	Examine to what extent intergenerational and other types of non-physical contacts have reduced the risk of increased perceived depressive feelings during the lockdown for people aged 50+	Older people who increased or maintained unchanged non-physical contacts with non-coresident individuals during the lockdown were at a lower risk of increased perceived depressive feelings compared to those who experienced a reduction in non-physical contacts	France, Italy, Spain
Parlapani et al. (7)	investigate the psychological response of older adults during the acute phase of the pandemic in Greece.	A significant proportion of the participants reported moderate to severe depressive symptoms, moderate to severe anxiety symptoms, as well as disrupted sleep.	Greek
Ritika Girdhar et al. (16)	The mental health issues faced by the elderly Due to enforced social isolation and various methods to mitigate the adverse effects of social isolation	Pandemic may cause exacerbation of existing or relapse of fears/phobias, anxiety disorders, obsessive-compulsive disorder. It may have catastrophic personal experiences leading to posttraumatic stress disorder. Various measures such as social facilitation interventions, psychological therapies, health and social care provision, befriending interventions, and leisure skill development can be helpful in mitigating mental health consequences during isolation	
Asgari et al. (17)	The current study aims to investigate the psychological experiences of the elderly during the COVID-19 pandemic.	the prevalence of COVID-19 has strongly affected all aspects of mental health in Older Adults and that the serious effects of this pandemic have influenced the various aspects of their individual, interpersonal and social life	
Varlı et al. (18)	This study aimed to determine the effect of health anxiety experienced by elderly individuals during the coronavirus disease 2019 (COVID-19) pandemic on their disease perception and treatment compliance.	The results of this study showed that the health anxiety and disease perception scores were high among Older Adults during the COVID-19 pandemic, which hindered their treatment compliance.	Turkey
Gholamzad et al. (19)	aimed to discover the lived experiences of the older adults during quarantine during the Coronavirus Disease 2019 (COVID-19) pandemic.	The two main themes of negative outcomes, with the sub-themes of illness anxiety, low mood, death anxiety, interpersonal conflicts, social isolation, treatment limitations, and reduced physical activity, as well as the main themes of positive outcomes, with the sub-theme of Lifestyle improvements, were discovered	Iran

Author/ year	Objective	Results	Country
Allison R. Heid et al. (20)	We examined the extent to which older people are adhering to physical distancing mandates and the pandemic-related experiences that older people find most challenging	Experiences appraised as most difficult by participants fell into 8 domains: Social Relationships, Activity Restrictions, Psychological, Health, Financial, Global Environment, Death, and Home Care. The most frequently appraised challenges were constraints on social interactions and restrictions on activity	
Robb et al. (8)	to investigate the impact of COVID-19 and associated social isolation on mental and physical well-being.	Respectively, 12.8 percent and 36 percent of the Older Adults have symptoms of depression, and there are anxiety symptoms that are most common among single and widowed women. They reported depression, anxiety, and feelings of loneliness.	England
Radwan et al. (21)	We highlight the main challenges facing older adults during the outbreak of the COVID-19 pandemic	Despite the importance of preventive measures in the protection of Older Adults' health and containing the outbreak of COVID-19, they will undoubtedly have short- and long-term consequences for the well-being and mental health of older adults	Palestine
Heshmatifar et al. (22)	This study investigated factors affecting the self-consumption of drugs for COVID-19 prevention in the elderly	The frequency of self-medication to prevent COVID-19 was 190(55.5%); analgesics, vitamins, anti-cold, and antibiotics were the most common drugs used. The major factors associated with self-medication in the COVID-19 pandemic were disease prevention, home quarantine, financial problems, experiencing previous self-medication, and others' advice.	Iran
Safania et al. (23)	The purpose of this study was to investigate the status of dental services for the elderly during the coronavirus outbreak	Many Older Adults avoid the treatment of oral diseases during the coronavirus pandemic due to fear of coronavirus, high dental costs, lack of access to appropriate services, and this causes irreparable problems in their health	
Terai et al. (24)	evaluated the change in locomotive syndrome prevalence and associated risk factors among an elderly population before and after a coronavirus outbreak.	Extrapolation of the study's findings to the entire population of Japan suggests that approximately 2 million Older Adults might develop locomotor syndrome after the coronavirus outbreak. Additionally, 10% of the participants with mild to moderate locomotive syndrome before the pandemic may develop severe locomotive syndrome after the outbreak. The greatest risk factor for new-onset or worsening locomotor syndrome was a decrease in daily exercise.	Japan
Burlacu et al. (25)	We identified and described medical, social, psychological, and religious issues, indirectly generated by the COVID-19 lockdown.	Social isolation disproportionately affects Older Adults, transforming it into a public health concern. Fear has led to anxiety disorders and depression.	Romania
Banerjee et al. (6)	Examination of the mental well-being of the elderly	Besides being prone to isolation, loneliness, stress, grief, depression, and anxiety during the lockdown, the seniors are also victims of stigma, prejudice, and abuse, stemming from agism. Elder abuse in every form has been particularly concerning during the present pandemic	
Smith et al. (26)	to provide an overview of the complex interconnectedness between social isolation, loneliness, and depression while introducing the COVID-19 Connectivity Paradox, a new concept used to describe the conflicting risk/harm continuum resulting from recommended physical distancing	The aging social services network provides a vital infrastructure for reaching older underserved and/or marginalized persons across the U.S. to reduce social isolation. Capitalizing on existing practices in the field, older adults can achieve distanced connectivity to mitigate social isolation risk while remaining at safe physical distances from others	Texas
Henning-Smith et al. (27)	The challenges of the rural elderly compared to the urban elderly in the era of COVID-19	Altogether, this puts rural older adults at risk of not only the virus, but of not being able to meet their health care, social, and basic needs. Rural/urban inequities, combined with within-rural inequities in health, health care, and financial resources, cause particular challenges to health and well-being from COVID-19 for some older adults	USA

Discussion

The present review research was conducted with the aim of investigating the problems faced by Older Adults during the COVID-19 era and investigating the suggested solutions. The results obtained from the present study

indicate that the knowledge that increasing age is a risk factor for mortality from Covid-19, combined with the limitation of family and social contacts, due to quarantine measures, had a psychological impact on the Older Adults during the pandemic.

There was evidence that the psychological impact of COVID-19 was greater in women compared to men, i.e., women expressed more worry (28) and showed more severe depression, anxiety (29), psychological distress (30), and insomnia (31). Most older adults avoid public places, cancel doctor's appointments and medical treatments, spend less time with friends and relatives, cancel out-of-town trips, and change their plans to attend family gatherings (23).

In total, older people report problems in eight domains: social relations, activity limitations, psychological, health, financial, global environment, death, and home care (23). These findings have important implications for future research and practice. Finding solutions to these challenges is the concern of health politicians. Most of the reviewed articles expressed the problems and asked for solutions, but so far, some solutions have also been provided, among which the following can be mentioned:

According to Aliani et al.'s study in Iran, allocating suitable and sufficient financial and support resources for people, especially Older Adults, to prevent mental health disorders and their possible consequences, is one of the most important strategies that should be considered in critical situations. During crises such as the COVID-19 epidemic, by conducting community-based interventions, people can be helped to cope with the situation and maintain emotional and psychological balance. Therefore, crises do not always end in negative results, but with proper crisis management and the implementation of community-based health-oriented interventions, not only can the crisis be controlled, but also social solidarity and cohesion can be promoted, which is a powerful factor for well-being, and the mental health of people is taken into consideration (12).

The results obtained from Wu's study indicate that social isolation and loneliness are the main risk factors that are related to poor physical and mental health status. Strategies reported in this context include promoting social communication as public health messages, mobilizing family members' resources, community-based networks and resources, developing innovative technology-based interventions to improve social communication, and engaging the health care system to begin the process of developing methods for identifying social isolation and loneliness in health care settings (16).

Girdhar et al believe that various interventions, such as social facilitation interventions, psychological treatments, health and social care provision, friendship interventions, and leisure skills development, can be useful in reducing mental health outcomes during isolation. Improving the feeling of physical and social security, hope, communication, peace, and efficiency of the society is effective in controlling or reducing the potential adverse effects of social isolation (19).

Girdhar and his colleagues believe that Older Adults are the most vulnerable group against coronavirus disease. Besides the infection, social isolation and quarantine put them at a high-risk category for various physical and mental health problems. The pandemic may cause exacerbation of the existing or relapse of fears/phobias, anxiety disorders, and obsessive-compulsive disorder (19), which might have catastrophic personal experiences that lead to post-traumatic stress disorder. Also, given that increasing age is associated with a higher rate of mental health problems, Older Adults may become more involved in social distancing conditions; avoid people, situations, and daily interactions that they used to normally enjoy; and finally, isolation, which has potentially serious consequences for mental health in older adults. In general, social bonding is necessary and inevitable for physical and mental health throughout life, and the spread of the coronavirus disease has caused social bonding among Older Adults to become weaker and eventually lead to the experience of an empty nest, psychological problems, and personal and interpersonal problems (20).

In the study of Aliani et al., the chance of mental well-being in Older Adults with chronic disease was approximately 24 times lower than that of Older Adults without chronic disease. On the other hand, the chances of mental well-being in the Older Adults who lived with their spouses were almost twice as high as those of the other Older Adults; therefore, living with a spouse has had a positive effect on mental well-being during the COVID-19 pandemic (12).

The results obtained from the study carried out by Berlak et al. indicated that social isolation and loneliness were likely to be among the most affected health outcomes. Social isolation and loneliness are the major risk factors that have been linked with poor physical and mental health

status (16). In general, according to the results of the review of the articles found, it can be said that the challenges after the Corona pandemic for the Older Adults include several dimensions: a) Psychological (social isolation, loneliness, obsession, fear and stress, depression, and anxiety); b) Physical (weight loss, exacerbation of accompanying medical diseases, reduction of physical activities); c) Changes in residential conditions (hospitalization, nursing home, home care, family care); d) Changes in financial conditions (job loss, early retirement)

The resilience of Older Adults can be amazing if they are adequately cared for, and young people can use their strengths. The way one treats Older Adults during a disaster shapes how he/she deal with future crises, and the coronavirus era offers another opportunity for this. Due to the importance of the health of Older Adults in society, it is expected that other solutions will be presented in accordance with these challenges, and it is necessary to carry out studies to improve the conditions.

Acknowledgement

The authors would like to thank Shiraz University of Medical Sciences, Shiraz, Iran, and also the Center for Development of Clinical Research of Nemazee Hospital and Dr. Nasrin Shokrpour for editorial assistance.

Funding

This study received no funding from any public, commercial, or non-profit agency.

Data Availability Statement

The study is based on extracting data from published articles; all data are included in the report.

Ethics Approval and Consent to Participate

This is not applicable as the study is based on extracting data from published articles.

Conflict of Interest

There are no conflicts of interest.

References

1. Saladino V, Algeri D, Auriemma V. The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being. *Front Psychol.* 2020;11:577684. doi: 10.3389/fpsyg.2020.577684.
2. Organization WH. Coronavirus disease 2019 (COVID-19): situation report, 51. Geneva: World Health Organization; 2020
3. Noroozian M. The elderly population in iran: an ever growing concern in the health system. *Iran J Psychiatry Behav Sci.* 2012;6(2):1-6.
4. Adhikari SP, Meng S, Wu YJ, Mao YP, Ye RX, Wang QZ, et al. Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. *Infect Dis Poverty.* 2020;9(1):29. doi: 10.1186/s40249-020-00646-x.
5. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *Lancet.* 2020;395(10223):470-3. doi: 10.1016/S0140-6736(20)30185-9.
6. Banerjee D, D’Cruz MM, Rao TS. Coronavirus disease 2019 and the elderly: Focus on psychosocial well-being, agism, and abuse prevention—An advocacy review. *Journal of geriatric mental health.* 2020;7(1):4-10.
7. Parlapani E, Holeva V, Nikopoulou VA, Sereslis K, Athanasiadou M, Godosidis A, et al. Intolerance of Uncertainty and Loneliness in Older Adults During the COVID-19 Pandemic. *Front Psychiatry.* 2020;11:842. doi: 10.3389/fpsyg.2020.00842.
8. Robb CE, de Jager CA, Ahmadi-Abhari S, Giannakopoulou P, Udeh-Momoh C, McKeand J, et al. Associations of Social Isolation with Anxiety and Depression During the Early COVID-19 Pandemic: A Survey of Older Adults in London, UK. *Front Psychiatry.* 2020;11:591120. doi: 10.3389/fpsyg.2020.591120.
9. Organization WH. Ageing and Life Course. Geneva: World Health Organization; 2023.
10. Olyani S, Peyman N. Assessment of the subjective wellbeing of the elderly during the COVID-19 disease pandemic in Mashhad. *Iranian Journal of Ageing.* 2021;16(1):62-73. doi: 10.32598/sija.16.1.3109.1.
11. Liu K, Chen Y, Lin R, Han K. Clinical features of COVID-19 in elderly patients: A comparison with young and middle-aged patients. *J Infect.* 2020;80(6):e14-e8. doi: 10.1016/j.jinf.2020.03.005.
12. Burlacu A, Mavrachi I, Crisan-Dabija R, Jugrin D, Buju S, Artene B, et al. “Celebrating

- old age”: an obsolete expression during the COVID-19 pandemic? Medical, social, psychological, and religious consequences of home isolation and loneliness among the elderly. *Arch Med Sci.* 2021;17(2):285-95. doi: 10.5114/aoms.2020.95955.
13. Banerjee D. ‘Age and ageism in COVID-19’: Elderly mental health-care vulnerabilities and needs. *Asian J Psychiatr.* 2020;51:102154. doi: 10.1016/j.ajp.2020.102154.
 14. Wu B. Social isolation and loneliness among older adults in the context of COVID-19: a global challenge. *Glob Health Res Policy.* 2020;5:27. doi: 10.1186/s41256-020-00154-3.
 15. Arpino B, Pasqualini M, Bordone V, Sole-Auro A. Older People’s Nonphysical Contacts and Depression During the COVID-19 Lockdown. *Gerontologist.* 2021;61(2):176-86. doi: 10.1093/geront/gnaa144.
 16. Girdhar R, Srivastava V, Sethi S. Managing mental health issues among elderly during COVID-19 pandemic. *Journal of geriatric care and research.* 2020;7(1):32-5.
 17. Asgari M, Choobdari A, Sakhaie S. The analysis of psychological experiences of the elderly in the pandemic of coronavirus disease: A phenomenological study. *Aging Psychology.* 2021;7(2):107-23.
 18. Varli U, Alankaya N. Effect of health anxiety on disease perception and treatment compliance in elderly patients during the COVID-19 pandemic in Turkey. *Arch Psychiatr Nurs.* 2022;40:84-90. doi: 10.1016/j.apnu.2022.05.002.
 19. Gholamzad S, Saeidi N, Danesh S, Ranjbar H, Zarei M. Analyzing the Elderly’s Quarantine-related Experiences in the COVID-19 Pandemic. *Iranian Journal of Ageing.* 2021;16(1):30-45. doi: 10.32598/sija.16.1.2083.3.
 20. Heid AR, Cartwright F, Wilson-Genderson M, Pruchno R. Challenges Experienced by Older People During the Initial Months of the COVID-19 Pandemic. *Gerontologist.* 2021;61(1):48-58. doi: 10.1093/geront/gnaa138.
 21. Radwan E, Radwan A, Radwan W. Challenges facing older adults during the COVID-19 outbreak. *European journal of environment and public health.* 2020;5(1):em0059. doi: 10.29333/ejeph/8457.
 22. Heshmatifar N, Davarinia Motlagh Quchan A, Mohammadzadeh Tabrizi Z, Moayed L, Moradi S, Rastagi S, et al. Prevalence and factors related to self-medication for COVID-19 prevention in the elderly. *Iranian Journal of Ageing.* 2021;16(1):112-27. doi: 10.32598/sija.16.1.2983.1.
 23. Safania P, Barahmand R, Safania AM. Oral health of elderly during the corona virus pandemic: a review article. *J Dent Med.* 2021;34(1):8.
 24. Terai H, Tamai K, Takahashi S, Katsuda H, Shimada N, Hori Y, et al. Development of locomotive syndrome in elderly population after COVID-19 outbreak: A population-based cross-sectional study with over 12,000 participants. *J Orthop Sci.* 2023;28(4):895-900. doi: 10.1016/j.jos.2022.05.012.
 25. Burlacu A, Mavrichi I, Crisan-Dabija R, Jugrin D, Buju S, Artene B, et al. “Celebrating old age”: an obsolete expression during the COVID-19 pandemic? Medical, social, psychological, and religious consequences of home isolation and loneliness among the elderly. *Arch Med Sci.* 2021;17(2):285-95. doi: 10.5114/aoms.2020.95955.
 26. Smith ML, Steinman LE, Casey EA. Combatting Social Isolation Among Older Adults in a Time of Physical Distancing: The COVID-19 Social Connectivity Paradox. *Front Public Health.* 2020;8:403. doi: 10.3389/fpubh.2020.00403.
 27. Henning-Smith C. The Unique Impact of COVID-19 on Older Adults in Rural Areas. *J Aging Soc Policy.* 2020;32(4-5):396-402. doi: 10.1080/08959420.2020.1770036.
 28. Gerhold L. COVID-19: risk perception and coping strategies. *PsyArXiv preprint.* 2020. doi: 10.31234/osf.io/xmpk4.
 29. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health.* 2020;17(5). doi: 10.3390/ijerph17051729.
 30. Qiu J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *Gen Psychiatr.* 2020; 33(2):e100213. doi: 10.1136/gpsych-2020-100213.

31. Voitsidis P, Gliatas I, Bairachtari V, Papadopoulou K, Papageorgiou G, Parlapani E, et al. Insomnia during the COVID-19

pandemic in a Greek population. *Psychiatry Res.* 2020;289:113076. doi: 10.1016/j.psychres.2020.113076.