

A Narrative Review of Geriatric Mental Health and COVID-19: Challenges for Low and Middle-Income Countries

Shruti Tilak¹, Avinash De Sousa²

¹Seth Gordhandas Sunderdas Medical College and King Edward Memorial Hospital, Mumbai, India.

²Department of Psychiatry, Lokmanya Tilak Municipal Medical College, Mumbai, India.

Corresponding author: Avinash De Sousa

Email – avinashdes888@gmail.com

ABSTRACT

The COVID-19 pandemic has affected people of all ages and walks of life. Older adults have been especially affected with regards to their physical and mental health. This article reviews issues in geriatric mental health during the COVID-19 pandemic and highlights specific challenges for low and middle-income countries (LMICs). It further offers short and long-term recommendations to enhance the mental health of older adults during the current pandemic and beyond. Relevant literature was studied on the following themes: 'older adults', 'pandemic', 'COVID-19', 'low and middle-income countries'. Geriatric populations are vulnerable to a deterioration in mental health due to many reasons, including a high risk of severe COVID-19 illness, social isolation and loneliness, and low technological engagement. Impacts are more serious in LMICs which tend to fare worse on key parameters like health infrastructure, mental health literacy, and public awareness of geriatric issues. Therefore, geriatric mental health has emerged as an area of concern in LMICs during the COVID-19 pandemic. Apart from short-term measures to offset the impact of COVID-19 on geriatric mental health, long-term systems strengthening is needed, keeping in mind the rising geriatric population and prevalence of psychiatric illnesses in LMICs.

Keywords: Pandemic; COVID-19; Psychological; Geriatric; Psychiatric; Low-income and middle-income countries

(Paper received – 28th April 2020, Peer review completed – 5th June 2020, Accepted – 8th June 2020)

INTRODUCTION

The COVID-19 pandemic has caused significant disruption of normal life, with reports from around the world indicating a substantial deterioration in mental health. Of particular concern is the decline in the mental health of older adults, arising from their vulnerability to the SARS-CoV-2, as well as several psychosocial factors relevant in the geriatric population [1]. As one example, the loss of social support from friends and family during periods of quarantine, has led to increased sadness and despair among older adults, a population already highly vulnerable to loneliness [2]. For the most part, the pandemic has had a similar effect on older adults living in high-income countries (HICs) and low and middle-income countries (LMICs) [1]. However, factors such as health systems, public awareness and sociocultural norms differ significantly in the two scenarios. The present review discusses specific challenges in geriatric mental health in LMICs during the COVID-19 pandemic.

METHOD OF CONDUCTING THIS REVIEW

In this narrative review, literature search was performed by two authors (ST and AD). PubMed and Google Scholar databases were searched using terms including but not limited to 'COVID-19', 'corona-virus', 'aging', 'older adults', 'geriatric', 'Low-income and middle-income countries' and 'quarantine'. Only English

language articles were included as this was the sole global language in which authors AD and ST were fluent. The authors acknowledge that the sole inclusion of English language literature is a limitation of the present review which attempts to highlight issues in the LMIC context. Review papers and articles of any type of methodological design published from 2020 to 2022 (June 30th), were included and reviewed in a non-systematic manner, keeping in mind a past, present, and future perspective based on the clinical experience of the authors. Data were also reviewed from internet sources like news releases from the World Health Organization (WHO). Gathered information was conceptualized into challenges in geriatric mental health broadly classified into challenges in health systems and public perception, psychosocial challenges and medical, care continuity and research challenges. The selection of challenges was rooted in topics which were clinical, hypothetical, evidence-based, suggestion-based, and also aimed at informing future guidelines for answering similar challenges that may present in epidemics and pandemics of the future.

Challenges in LMICs

Challenge 1 – Healthcare infrastructure

There is a disparity between the healthcare needs of the population and the healthcare infrastructure available in most LMICs, leaving many without access to adequate medical care [3]. Geriatric populations are growing at a significant pace in developing countries [4], raising the need for specialized geriatric healthcare services for older adults to improve physical and mental health. Prevalence of psychiatric disorders among older adults has increased parallel to their growth in absolute numbers. Despite the growing need for geriatric care, policy to expand healthcare capacity specifically for older adults and deliver low-cost services right from the primary care level, has yet to be made in most developing countries. The “Mental Health Care Act (MHCA), 2017” and “The Maintenance and Welfare of Parents and Senior Citizens Act, 2007” mandated provision of geriatric mental health services in India [5]. However, these schemes have thus far been marred by implementation issues [6]. This is in contrast with HICs, where government-funded healthcare programs like Medicare in the United States, exist specifically for older adults and provide coverage for mental health services [7]. Inequitable access is an additional challenge; although 70% of older adults reside in rural areas, mental health services are mostly limited to cities [5]. Pre-existing gaps in healthcare have widened during the COVID-19 pandemic with the siphoning off medical personnel and resources to combat SARS-CoV-2, leaving older populations with even fewer options to seek care for their physical health needs, much less receive mental health support [8].

Challenge 2 – Lack of personnel in geriatric mental health

Within healthcare, the relative paucity of mental health coverage in LMICs is stark, with a global average of only 9 mental health workers per 100,000 population as opposed to 72 per 100,000 population in HICs [9]. Surveys across nations list mental disorders as major disabilities in older ages [10]. Yet in most LMICs, the field of geriatric psychiatry remains obscure and unrecognized, resulting in a major deficit of medical leadership for improving practices in geriatric mental health [11–13]. With these deficiencies in the pre-pandemic scenario, psychogeriatric services during the COVID-19 pandemic have failed to keep up with burgeoning demand [14,15]. In China, geriatric psychiatrists worked as leaders in mobilizing personnel from mental health, nursing and social work fields to offer mental health and psychosocial support (MHPSS) for older adults under quarantine [16]. This has been one of the few examples of a coordinated geriatric mental health response in an LMICs setting, made possible because of an organized body of geriatric psychiatrists to undertake crucial response measures during the COVID-19 pandemic. In countries with no such leadership, the mental health of older adults has been largely ignored or left to the local community [11].

Challenge 3 – Public perception towards geriatric mental health

In countries having conservative communities and rigid social structures, the presence of a mental disorder is viewed unfavorably, with misconceptions that these conditions occur due a weak personality and lead to insanity or violent behavior. The news of someone in the community having a mental illness leads to the alienation of that individual and their family. Thus, stigma surrounding mental health prevents people from seeking help for psychiatric issues [17]. Further, mental health-seeking is inhibited in some religious and

indigenous communities due to superstitions that psychotic episodes are linked to the worshipped deity or supernatural beings [18]. Patients opt to seek cure through religious rituals or traditional healing instead of through medical therapy, and penetration of mental health services is difficult in these communities [6]. Due to a lack of awareness about geriatric mental health, caregivers and family members sometimes dismiss symptoms of a mental illness in an older adult as natural impairments in “old age” [19]. This is especially prevalent in dementia, depression, and other affective disorders. Older adults themselves may not know that they have a mental illness, fuelled by an outdated perception of mental health [12]. As a result, mental health literacy in many LMICs is poor, and little help is sought for the alleviation of the mental health problems of older adults [20]. Awareness programmes with community participation may benefit in bringing about a change in public perception and improve mental health-seeking [6]. It is important that we do keep ageist views aside and not ignore older adults that need mental health care; this is proving to be especially important due to the increased psychogeriatric burden during the COVID-19 pandemic [21].

Challenge 4 – Social Isolation and Loneliness during Quarantine

Social activities among family and community are a major source of respite from the difficulties of life in older adults. Social isolation is the objective state of having few social relationships while loneliness is a subjective perception of lacking social contact. Even before the pandemic, older adults, especially those living alone, faced a great deal of loneliness with long periods without any human interaction [22]. During periods of quarantine as the few avenues for social contact like recreational centers, trips to the local market and visits from family were lost, there was a rise in depression and disconnectedness, with reports of increased aggression, suicidal thoughts, and self-neglect [23,24]. Many older adults have lost their spouses and friends during the pandemic, compromising their close social network, and aggravating the sense of aloneness and despair [25]. Social isolation and loneliness are linked to poor physical and mental health outcomes like hypertension, obesity, diminished immune function, depression, anxiety and cognitive decline [2]. Therefore, mitigating the health impact of social distancing and quarantine during the COVID-19 pandemic is an area of concern in older adults. The general population has maintained social connectedness through technology. However, older ages have significantly lower rates of online engagement. This results in a worrying paradox: older populations, which are the worst affected by social isolation, are also the least likely to utilize digital resources that can help mitigate its effects [26]. Solutions to offset the deleterious impact of social isolation can be centred around family support in LMICs like China, India, and many South-Asian countries where older adults live in multi-generational households [21,27]. As for individuals living in long-term care facilities, coping strategies can involve helplines, skill-building and indoor engagement [28].

Challenge 5 – Religion and Spirituality during the pandemic

Religion is of great socio-cultural importance in many LMICs. In India for example, religious activities like visiting places of worship, and participating in religious gatherings are highly important social phenomena; some of these gatherings occur on an enormous scale and are attended by millions of people [29]. Religious coping is a well-known protective factor against negative mental health states [30]. Older adults are more likely to identify as religious and depend on religious avenues to maintain their social relationships and spiritual well-being [31]. In a study from Ghana, restrictions on going to church during the COVID-19 pandemic resulted in a reduced sense of belongingness and community, and an erosion of faith due to the loss of the congregational routine [32]. Reports from developed countries like the USA indicate that a majority of faith-based activities shifted from an in-person to a virtual setting [33]. While this has been mirrored in LMICs like Malaysia where the population at large has adopted technology [30], the same may not be possible in developing countries with poor technological access. Mental health disturbances in older ages arising from religious disconnect need to be dealt with in a sensitive manner, keeping in mind both the need for social distancing and the importance of religious expression [30].

Challenge 6 – Complicated Grief in older adults

The COVID-19 pandemic has led to an unprecedented rise in the phenomenon of complicated grief, in which the lack of an adequate physical and emotional space to grieve leads to feelings of sorrow, loss and

remorse that can get debilitating and prolonged beyond normal limits [34]. Complicated grief may be attributed in part to the nature of the SARS-CoV-2 in causing a rapid onset of illness and deterioration. Many deaths due to COVID-19 have occurred suddenly, leaving little time for loved ones to say goodbye [35]. Death is a communal affair, and the traditions surrounding it; the funeral rites, burials, and rituals, play a large role in helping the bereaved find closure and pass through the stages of grief. During the COVID-19 pandemic, these practices have been disrupted due to social distancing [36]. Complicated grief in some LMICs may be especially acute during “waves” of heightened transmission of COVID-19 [35]. News reports from Delhi, India’s capital city, displayed images of burgeoning cremation sites and significant distress among the bereaved due to the sheer number of deaths in an overwhelmed healthcare system [37]. Bereavement has been especially challenging in older adults due to the high death rate in the geriatric population- many have faced abandonment and ‘survivor’s guilt’ after the loss of spouses, friends, and relatives [28,36]. This phenomenon has been added to the DSM-5TR in the form of Prolonged Grief Disorder (PGD); patients with PGD require the help of the community and professionals [38]. HICs like the United Kingdom and Ireland have recognized the rise in complicated grief as a public health problem, making Bereavement care a major component of emotional support for COVID-19 [39]. The national mental health helpline “Kiran”, launched by the Indian Government, listed grief as an area of concern [40]. Yet there are few accounts of bereavement services in developing countries [35]. There is a need for grief-related research and support for older adults within the specific cultural, social, and religious context in LMICs.

Challenge 7 – Deterioration of sense of self – ‘not mattering’.

The pandemic has brought economic uncertainty, anxiety regarding personal health and the loss of community support; inter-personal tensions have been reported to rise between older adults and their caregivers, resulting in an increase in elder abuse and neglect [41]. Financial strain has been an important factor in the build-up of resentment towards older adults [41]; multiple studies from China, Pakistan, Turkey and Iran reported that medical costs were higher in older COVID-19 patients, largely driven by an increased need for hospitalization with mechanical ventilation and immunomodulator therapy [42]. Older adults in LMICs often reside with their children as dependents and are thus unable to make decisions regarding their own health. As a vulnerable age group, they face a great deal of uncertainty surrounding COVID-19. At the same time, there is not much they can do to actively contribute to combating the pandemic. All these issues can add up to give rise to a sense of helplessness, and a sentiment that their life is expendable, and they do not matter [43]. Experiencing these negative sentiments for a sustained period without the relief of social involvement and engagement in meaningful pursuits, has had negative impacts on the mental health of older adults and may result in an increase in global suicide rates in this age group [44]. Therefore, it is important to address the sentiment of not mattering among the geriatric population, provide reassurance, encourage positive activities, and safeguard their rights and sense of self during the pandemic.

Challenge 8 – Fear of contracting COVID-19

Older adults are disproportionately susceptible to severe illness in COVID-19, with higher rates of hospitalization, complications, and mortality [45,46]. Therefore, a significant stressor in this age group has been fear of contracting COVID-19. In particular, hospitalized COVID-19 patients, likelier to be older adults, have experienced psychological stress due to the foreign environment of the hospital and low contact with family [47]. The experience of hospitalization extracts a mental toll that is often inadequately dealt with, overshadowed by the larger concerns of physical health and strain on the family during the pandemic [12,28]. There is a need for COVID-19 centers to employ trained mental health workers to respond to the mental health needs of hospitalized older adults. With the rollout of vaccines against COVID-19 since December 2020, studies have shown that vaccinated individuals, especially older adults, experience a strong reduction in stress and anxiety surrounding the COVID-19 pandemic [48]. While this is heartening, vaccination rates have been far from equitable across countries; more than 70% of people in HICs are fully vaccinated against COVID-19, compared to only 4% in LMICs [49]. Moreover, a negative effect has been reported on the mental health of individuals having low levels of education and belonging to ethnic minorities, likely caused by vaccine hesitancy [48]. Thus, the challenge of reducing the fear of contracting

COVID-19 needs special attention in LMIC settings where vaccination rates are low and vaccine hesitancy is prevalent [50].

Challenge 9 – COVID-19 and psychiatric illnesses

COVID-19 may be worsening the condition of patients with psychiatric disorders like dementia and depression, causing exacerbations, and relapses with the onset of COVID-19 [51,52]. Additionally, psychiatric disturbances like anxiety, dementia, and sleep disorders, have been observed to occur after contracting the virus [53,54]. Older adults with COVID-19 are at an increased risk of developing COVID-19 delirium, which is associated with significant functional impairment and poor medical outcomes such as longer duration of hospital stay, intensive care and higher mortality [55]. While utilizing benzodiazepines and antipsychotics in COVID-19 patients, particularly in those also receiving antiviral therapy, adverse cardiac effects are an important concern which must be kept in mind for older adults experiencing delirium and other psychiatric illnesses [55]. COVID-19 has also manifested in the form of long COVID syndrome consisting of post-infection sequelae in the cardiovascular, respiratory, gastrointestinal, and neurological systems, which in turn have worsened pre-existing mental disorders or caused new-onset psychological distress [56]. There is a need to recognize that fatigue, weakness, and cognitive deterioration due to COVID-19 are much more devastating in the geriatric population and may be seen for as long as a year after recovery; Long COVID syndrome and its mental health impact is thus more severe in older adults [56,57]. In most LMICs, much of the burden of treating COVID-19 and co-occurring psychiatric disturbances in older adults has fallen to the non-expert clinician in hospital settings, or the general physician in outpatient clinics [55]. Raising awareness about COVID-19 and psychiatric issues among these medical professionals is an important step towards improving geriatric mental health outcomes.

Challenge 10 – Decline in physical wellness

Social distancing has restricted physical activity, leading to a loss of outdoor routines such as walks, gardening pursuits, laughter clubs and exercise groups. As a result, many older adults have experienced a reduction in physical wellness due to the lost benefits of exercise on cardiovascular, respiratory systems and bone health [23]. Additionally, being confined to the house may have worsened eating habits, with an increase in snacking on unhealthy foods, overeating or undereating. Reduced physical exertion, coupled with fear and anxiety have negatively impacted sleep quality. The disturbances in physical activity are direct risk factors for decline in physical wellness, and this in turn, has negative repercussions for mental health [58]. The relationship between physical and mental health has been extensively studied in the context of dementia. Regular physical activity in pre-symptomatic and predementia older adults may delay one-third of Alzheimer's disease (AD) and other common types of dementias globally [59]. The issue of physical wellness in the context of dementia is especially relevant in LMICs because 60% of people living with dementia reside in LMICs [58]. Therefore, as far as possible, an active lifestyle should be maintained throughout the pandemic for older populations [59]. Monitoring health behaviors, promoting positive habits and ensuring a supply of nutritious food to older adults, especially those living alone, are potential ways to mitigate the negative impact of the pandemic on physical wellness [60].

Challenge 11 – Disruption of medical and psychiatric treatment during lockdown

Regular assessments and intake of prescribed drugs are crucial in the management of most chronic illnesses. During lockdowns, quarantines, and other periods of movement restriction, owing to the disruption of transportation, and suspension of Outpatient Departments (OPDs), patients with chronic conditions like diabetes, hypertension and dyslipidemia were forced to default on their regular follow-up and medication refill [61]. Similarly, patients living with mental illnesses were lost to follow-up with their psychiatrists and psychotherapists [17]. In some LMICs, even those who managed to continue follow-up faced difficulties in accessing prescribed drugs. Accessibility to essential drugs declined during the pandemic in Nigeria due to the disruption of global supply chains, resulting in an increase in drug costs to unaffordable levels [62]. Older adults faced greater difficulties with maintaining follow-up due to being a dependent population [63]. This disruption in the continuity of care has led to multi-fold problems including worsening of disease severity and presentations of disease at later, more complicated stages. Disturbances have also occurred at the

inpatient level. During lockdown, elective surgeries for cataract, hernia, and other conditions prevalent in older adults, were suspended or delayed, leading to anxiety and uncertainty [61]. Older populations living with mental illnesses who required institutional treatment were largely forced to continue at the psychiatric facility despite increased risk of exposure to the SARS-CoV-2 [64]. The resulting stress and uncertainty from the disruption and loss of medical care continuity has led to significant distress, with reports of raised anxiety and fear in older adults during the pandemic [63].

Challenge 12 – Telepsychiatry in geriatric populations

There has been a rise in telepsychiatry services during the pandemic, with evidence to support its validity and effectiveness compared to in-person care [65]. While many countries (70%) have adopted telemedicine or teletherapy to overcome disruptions in psychiatric treatment, there are significant inequalities in the adoption of these services. A WHO survey reported that more than 80% of HICs have deployed telemedicine and teletherapy to bridge gaps in mental health, compared with less than 50% of LMICs [66]. Adoption among older adults has been limited due to low digital literacy and access to technological devices, and a high prevalence of visual and hearing impairment [67]. To overcome these challenges, caregivers, younger family members, and trained staff may need to be involved to assist in the teleconsultation [68,69]. An improvement in access to telepsychiatry in geriatric populations could be linked to better mental health outcomes [26,70].

Challenge 13 – Issues in geriatric mental health research

A survey on barriers to participation in late-life mental health research found that lack of perceived need, low funding, and an absence of culturally matched staff were the most important barriers [71]. These barriers are likely to be more prominent in LMICs, creating a dearth of research on older adults in this setting. Even in existing geriatric mental health research, access to participation is inequitable. Most mental health surveys designed to capture the psychiatric impact on older adults during the COVID-19 pandemic are observed to be circulated through online media [72], which could lead to underrepresentation of economically disadvantaged groups. Visual and hearing impairment, along with a lack of modified psychiatric scales for the geriatric population may further limit research in older adults [71]. There is a need for researchers to be ethical and sensitive when engaging with older populations in research as they are a vulnerable group especially during the current pandemic and may be prone to exploitation in research and therapy.

CONCLUSION

The present review delineates several challenges in geriatric mental health in LMICs during the COVID-19 pandemic. Some challenges stem directly from problems arising due to the current pandemic, while a significant number are pre-existing issues brought to the forefront during the adverse conditions in the pandemic. There is a need for developing countries to make geriatric mental health a focus area in the mental health response to COVID-19, addressing specific issues in older adults due to social isolation, bereavement, and sentiments of “not mattering” using an evidence-based, coordinated approach. Solutions in geriatric mental health should include outreach services in the form of mental health helplines, health promotion activities, workforce capacity building in geriatric care and psychoeducation for caregivers. Additionally, sensitive issues like vaccine hesitancy, stigma, and the role of religion in mental health require research on the knowledge, attitude, and practices of specific communities so that policymaking can be done in a culturally competent manner. A major field of innovation during the pandemic has centred around technological solutions during lockdowns and periods of social distancing; in those countries where technological adaptation has fallen short, older adults need to be acclimatized to telemedicine and online applications in order to be brought into the fold of virtual life during COVID-19.

Apart from acute measures tailored to the pandemic, long-term, overall systems strengthening is needed keeping in mind the rising geriatric population and significant psychiatric disease burden. Given that only 4% of the healthcare budget in most LMICs is spent on mental health [9], it is no surprise that mental health services in LMICs are proving inadequate to meet the heightened need during COVID-19. An increase in mental health resources allocation, with specific programs and schemes in older age groups is highly

necessary to limit the extent and chronicity of psychiatric illnesses and prepare for pandemics of the future [21]. To enhance the overall quality of interventions and reduce parallel structures, collaboration should be encouraged between governments, private entities, and non-profit organizations [17].

REFERENCES

1. Kola L, Kohrt BA, Hanlon C, Naslund JA, Sikander S, Balaji M, Benjet C, Cheung EYL, Eaton J, Gonsalves P, Hailemariam M, Luitel NP, Machado DB, Misganaw E, Omigbodun O, Roberts T, Salisbury TT, Shidhaye R, Sunkel C, Ugo V, Rensburg AJ, van Gureje O, Pathare S, Saxena S, Thornicroft G, Patel V. COVID-19 Mental Health Impact and Responses in Low-Income and Middle-Income Countries: Reimagining Global Mental Health. *Lancet Psychiatry* 2021;8(6):535–50.
2. Wu B. Social Isolation and Loneliness among Older Adults in the Context of COVID-19: A Global Challenge. *Glob Health Res Policy* 2020;5(1):27.
3. Angrup A, Kanaujia R, Ray P, Biswal M. Healthcare Facilities in Low- and Middle-Income Countries Affected by COVID-19: Time to Upgrade Basic Infection Control and Prevention Practices. *Indian J Med Microbiol* 2020;38(2):139–43.
4. Ageing and health. Available online: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health> (accessed 15 May 2022).
5. Sivakumar PT, Mukku SSR, Kar N, Manjunatha N, Phutane VH, Sinha P, Kumar CN, Math SB. Geriatric Telepsychiatry: Promoting Access to Geriatric Mental Health Care Beyond the Physical Barriers. *Indian J Psychol Med* 2020;42(5 Suppl):S41-6.
6. Rathod S, Pinninti N, Irfan M, Gorczynski P, Rathod P, Gega L, Naeem F. Mental Health Service Provision in Low- and Middle-Income Countries. *Health Serv Insights* 2017;10:1178632917694350.
7. What Medicare covers | Medicare. Available online: <https://www.medicare.gov/what-medicare-covers> (accessed 5 July 2022).
8. COVID-19 continues to disrupt essential health services in 90% of countries. Available online: <https://www.who.int/news/item/23-04-2021-covid-19-continues-to-disrupt-essential-health-services-in-90-of-countries> (accessed 5 July 2022).
9. Mental Health ATLAS 2017. Available online: <https://www.who.int/publications-detail-redirect/9789241514019> (accessed 15 May 2022).
10. Malik C, Khanna S, Jain Y, Jain R. Geriatric Population in India: Demography, Vulnerabilities, and Healthcare Challenges. *J Fam Med Prim Care* 2021;10(1):72–6.
11. El Hayek S, Cheaito MA, Nofal M, Abdelrahman D, Adra A, Al Shamli S, Al Harthi M, Al Nuaimi N, Aroui C, Bensid L, Emberish AM, Larnaout A, Radwan A, Slaih M, Al Sinawi H. Geriatric Mental Health and COVID-19: An Eye-Opener to the Situation of the Arab Countries in the Middle East and North Africa Region. *Am J Geriatr Psychiatry* 2020;28(10):1058-69.
12. The Psychogeriatric Workforce in China: Challenges for the Future | International Psychogeriatric Association. Available online: <https://www.ipa-online.org/about/ipa-news-and-media/workforce-issues/the-psychogeriatric-workforce-in-china-challenges-for-the-future> (accessed 5 July 2022).
13. Old Age Psychiatry: Challenges for the Development of the Specialty | International Psychogeriatric Association. Available online: <https://www.ipa-online.org/about/ipa-news-and-media/workforce-issues/old-age-psychiatry-challenges-for-the-development-of-the-specialty> (accessed 5 July 2022).
14. Lee ATC, Mo FYM, Lam LCW. Higher Psychogeriatric Admissions in COVID-19 than in Severe Acute Respiratory Syndrome. *Int J Geriatr Psychiatry* 2020;35(12):1449–57.
15. Vahia VN, Shah AB. COVID-19 Pandemic and Mental Health Care of Older Adults in India. *Int Psychogeriatr* 2020;32(10):1125–7.
16. Wang H, Li T, Gauthier S, Yu E, Tang Y, Barbarino P, Yu X. Coronavirus Epidemic and Geriatric Mental Healthcare in China: How a Coordinated Response by Professional Organizations Helped Older Adults during an Unprecedented Crisis. *Int Psychogeriatr* 2020;32(10):1117–20.
17. De Sousa A, Mohandas E, Javed A. Psychological Interventions during COVID-19: Challenges for Low and Middle Income Countries. *Asian J Psychiatry* 2020;51: 102128.
18. Trivedi JK, Jilani AQ. Pathway of Psychiatric Care. *Indian J Psychiatry* 2011;53(2): 97–8.
19. D’cruz M, Banerjee D. ‘An Invisible Human Rights Crisis’: The Marginalization of Older Adults during the COVID-19 Pandemic – An Advocacy Review. *Psychiatry Res* 2020;292:113369.
20. Polacek M, Boardman GH, McCann TV. Help-seeking Experiences of Older Adults with a Diagnosis of Moderate Depression. *Int J Ment Health Nurs* 2019;28(1):278–87.
21. Banerjee D. ‘Age and Ageism in COVID-19’: Elderly Mental Health-Care Vulnerabilities and Needs. *Asian J Psychiatry* 2020;51:102154.
22. National Academies of Sciences, Engineering, and Medicine. Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System. The National Academies Press: Washington, DC, USA, 2020; pp 35-48.
23. Sepúlveda-Loyola W, Rodríguez-Sánchez I, Pérez-Rodríguez P, Ganz F, Torralba R, Oliveira DV, Rodríguez-Mañas L. Impact of Social Isolation Due to COVID-19 on Health in Older People: Mental and Physical Effects and Recommendations. *J Nutr Health Aging* 2020;1–10.

24. Buenaventura RD, Ho JB, Lapid MI. COVID-19 and Mental Health of Older Adults in the Philippines: A Perspective from a Developing Country. *Int Psychogeriatr* 2020;32(10):1129–33.
25. Tyler CM, McKee GB, Alzueta E, Perrin PB, Kingsley K, Baker FC, Arango-Lasprilla JC. A Study of Older Adults' Mental Health across 33 Countries during the COVID-19 Pandemic. *Int J Environ Res Pub Health* 2021;18(10):5090.
26. Martins Van Jaarsveld G. The Effects of COVID-19 Among the Elderly Population: A Case for Closing the Digital Divide. *Front Psychiatry* 2020;11.
27. Prince M, Livingston G, Katona C. Mental Health Care for the Elderly in Low-Income Countries: A Health Systems Approach. *World Psychiatry* 2007;6 (1):5–13.
28. Girdhar R, Srivastava V, Sethi S. Managing Mental Health Issues among Elderly during COVID-19 Pandemic. *J Geriatr Care Res* 2020;6(1):29-32.
29. Kumbh Mela: Hindus Converge for Largest-Ever Human Gathering. *The Guardian*. Available online: <https://www.theguardian.com/world/2019/jan/15/kumbh-mela-hindus-converge-for-largest-ever-human-gathering-prayagraj-festival> (accessed 15 July 2022).
30. Ting RSK, Aw Yong YY, Tan MM, Yap CK. Cultural Responses to Covid-19 Pandemic: Religions, Illness Perception, and Perceived Stress. *Front Psychol* 2021;12.
31. Malone J, Dadswell A. The Role of Religion, Spirituality and/or Belief in Positive Ageing for Older Adults. *Geriatrics* 2018;3(2):28.
32. Osei-Tutu A, Affram AA, Mensah-Sarbah C, Dzokoto VA, Adams G. The Impact of COVID-19 and Religious Re-strictions on the Well-Being of Ghanaian Christians: The Perspectives of Religious Leaders. *J Relig Health*. 2021;60(4):2232–49.
33. Few Americans Say Their House of Worship Is Open, but a Quarter Say Their Faith Has Grown amid Pandemic. *Pew Research Center*. Available online: <https://www.pewresearch.org/fact-tank/2020/04/30/few-americans-say-their-house-of-worship-is-open-but-a-quarter-say-their-religious-faith-has-grown-amid-pandemic/> (accessed 15 July 2022).
34. Complicated grief - Symptoms and causes. *Mayo Clinic*. Available online: <https://www.mayoclinic.org/diseases-conditions/complicated-grief/symptoms-causes/syc-20360374> (accessed 3 July 2022).
35. Varshney P, Prasad G, Chandra PS, Desai G. Grief in the COVID-19 Times: Are We Looking at Complicated Grief in the Future? *Indian J Psychol Med* 2021;43(1):70–3.
36. Goveas JS, Shear MK. Grief and the COVID-19 Pandemic in Older Adults. *Am J Geriatr Psychiatry* 2020;28(10):1119–25.
37. India Covid: Delhi Running out of Space for Cremations. *BBC News*. Available online: <https://www.bbc.com/news/world-asia-india-56939011> (accessed 15 July 2022).
38. Psychiatry.org - Prolonged Grief Disorder. Available online: <https://psychiatry.org/443/patients-families/prolonged-grief-disorder> (accessed 5 July 2022).
39. Pearce C, Honey JR, Lovick R, Zapiain Creamer N, Henry C, Langford A, Stobert M, Barclay S. “A Silent Epidemic of Grief”: A Survey of Bereavement Care Provision in the UK and Ireland during the COVID-19 Pandemic. *BMJ Open* 2021;11 (3): e046872.
40. Ransing R, Kar SK, Menon V. National Helpline for Mental Health during COVID-19 Pandemic in India: New Opportunity and Challenges Ahead. *Asian J Psychiatry* 2020; 54:102447.
41. Makaroun LK, Bachrach RL, Rosland AM. Elder Abuse in the Time of COVID-19: Increased Risks for Older Adults and Their Caregivers. *Am J Geriatr Psychiatry* 2020;28(8):876–80.
42. Richards F, Kodjamanova P, Chen X, Li N, Atanasov P, Bennetts L, Patterson BJ, Yektashenas B, Mesa-Frias M, Tronczynski K, Buyukkaramikli N, El Khoury AC. Economic Burden of COVID-19: A Systematic Review. *Clin Outcomes Res* 2022;14: 293–307.
43. Flett GL, Heisel MJ. Aging and Feeling Valued Versus Expendable During the COVID-19 Pandemic and Beyond: A Review and Commentary of Why Mattering Is Fundamental to the Health and Well-Being of Older Adults. *Int J Ment Health Addict* 2021;19(6):2443–69.
44. Zalsman G, Stanley B, Szanto K, Clarke DE, Carli V, Mehlum L. Suicide in the Time of COVID-19: Review and Rec-ommendations. *Arch Suicide Res* 2020;24(4):477–82.
45. Zhonghua LXXBZZ. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China. *Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention* 2020;41(2): 145–51.
46. Mortazavi H. Managing Older Adults' Fear of Coronavirus Disease: A New Role for Social Work Practice. *Qual Soc Work* 2021;20(1–2):507–12.
47. Beck K, Vincent A, Becker C, Keller A, Cam H, Schaefer R, Reinhardt T, Sutter R, Tisljar K, Bassetti S, Schuetz P, Hunziker S. Prevalence and Factors Associated with Psychological Burden in COVID-19 Patients and Their Relatives: A Prospective Observational Cohort Study. *PLOS One* 2021;16(5):e0250590.
48. Chen S, Aruldass AR, Cardinal RN. Mental Health Outcomes after SARS-CoV-2 Vaccination in the United States: A National Cross-Sectional Study. *J Affect Disord* 2022;298:396–9.
49. Ye Y, Zhang Q, Wei X, Cao Z, Yuan HY, Zeng DD. Equitable Access to COVID-19 Vaccines Makes a Life-Saving Difference to All Countries. *Nat Hum Behav* 2022;6(2): 207–16.
50. Mobarak AM, Miguel E, Abaluck J, Ahuja A, Alsan M, Banerjee A, Breza E, Chandrasekhar,AG, Duflo E, Dzansi J, Garrett D, Goldsmith-Pinkham P, Gonsalves GS, Hossain MM, Jakubowski A, Kang G, Kharel A,

- Kremer M, Meriggi N, Nekesa C, Olken BA, Omer SB, Qadri F, Rees H, Salako B, Voors M, Warren S, Więcek W. End COVID-19 in Low- and Middle-Income Countries. *Science* 2022;375(6585):1105–10.
51. Keng A, Brown EE, Rostas A, Rajji TK, Pollock BG, Mulsant BH, Kumar S. Effectively Caring for Individuals with Behavioral and Psychological Symptoms of Dementia During the COVID-19 Pandemic. *Front Psychiatry* 2020;11:573367.
 52. Mehra A, Rani S, Sahoo S, Parveen S, Singh AP, Chakrabarti S, Grover SA. Crisis for Elderly with Mental Disorders: Relapse of Symptoms Due to Heightened Anxiety Due to COVID-19. *Asian J Psychiatry* 2020;51:102114.
 53. Sarangi A, Javed S, Karki K, Kaushal A. COVID-19-Associated PTSD in the Elderly—Lessons Learned for the next Global Pandemic. *Middle East Curr Psychiatry* 2021;28(1):39.
 54. Taquet M, Luciano S, Geddes JR, Harrison PJ. Bidirectional Associations between COVID-19 and Psychiatric Disorder: Retrospective Cohort Studies of 62 354 COVID-19 Cases in the USA. *Lancet Psychiatry* 2021;8(2):130–40.
 55. Meagher D, Adamis D, Timmons S, O'Regan NA, O'Keefe S, Kennelly S, Corby C, Meaney AM, Reynolds P, Mohamad M, Glynn K, O'Sullivan R. Developing a Guidance Resource for Managing Delirium in Patients with COVID-19. *Irish J Psychol Med* 2021;38(3):208–13.
 56. Lancet T. Understanding Long COVID: A Modern Medical Challenge. *Lancet* 2021; 398(10302):725.
 57. Opinion | Long COVID in Older Adults: An Elusive Geriatric Syndrome. Available online: <https://www.medpagetoday.com/opinion/second-opinions/98971> (accessed 5 July 2022).
 58. Mental health of older adults. Available online: <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults> (accessed 15 May 2022).
 59. De la Rosa A, Olasso-Gonzalez G, Arc-Chagnaud C, Millan F, Salvador-Pascual A, García-Lucerga C, Blasco-Lafarga C, Garcia-Dominguez E, Carretero A, Correias AG, Viña J, Gomez-Cabrera MC. Physical Exercise in the Prevention and Treatment of Alzheimer's Disease. *J Sport Health Sci* 2020;9(5):394–404.
 60. Webb LM, Chen CY. The COVID-19 Pandemic's Impact on Older Adults' Mental Health: Contributing Factors, Coping Strategies, and Opportunities for Improvement. *Int J Geriatr Psychiatry* 2022;37(1).
 61. Morrow-Howell N, Galucia N, Swinford E. Recovering from the COVID-19 Pandemic: A Focus on Older Adults. *J Aging Soc Policy* 2020;32(4–5):526–35.
 62. Emmanuel Awucha N, Chinelo JaneFrances O, Chima Meshach A, Chiamaka Henrietta J, Ibilolia Daniel A, Esther Chidiebere N. Impact of the COVID-19 Pandemic on Consumers' Access to Essential Medicines in Nigeria. *Am J Trop Med Hyg* 2020;103(4):1630–4.
 63. Di Santo SG, Franchini F, Filiputti B, Martone A, Sannino S. The Effects of COVID-19 and Quarantine Measures on the Lifestyles and Mental Health of People Over 60 at Increased Risk of Dementia. *Front Psychiatry* 2020;11.
 64. Mazereel V, Van Assche K, Detraux J, De Hert M. COVID-19 Vaccination for People with Severe Mental Illness: Why, What, and How? *Lancet Psychiatry* 2021;8(5):444–50.
 65. Fu Z, Burger H, Arjadi R, Bockting CLH. Effectiveness of Digital Psychological Interventions for Mental Health Problems in Low-Income and Middle-Income Countries: A Systematic Review and Meta-Analysis. *Lancet Psychiatry* 2020;7(10):851–64.
 66. COVID-19 disrupting mental health services in most countries, WHO survey. Available online: <https://www.who.int/news/item/05-10-2020-covid-19-disrupting-mental-health-services-in-most-countries-who-survey> (accessed 3 July 2022).
 67. De Sousa A, Shrivastava A, Shah B. Telepsychiatry and Telepsychotherapy: Critical Issues Faced by Indian Patients and Psychiatrists. *Indian J Psychol Med* 2020;42:(Suppl 5):S74–80.
 68. Morgan DG, Crossley M, Kirk A, McBain L, Stewart NJ, D'Arcy C, Forbes D, Harder S, Dal Bello-Haas V, Basran J. Evaluation of Telehealth for Preclinic Assessment and Follow-Up in an Interprofessional Rural and Remote Memory Clinic. *J Appl Gerontol* 2011;30(3):304–31.
 69. Dham P, Gupta N, Alexander J, Black W, Rajji T, Skinner E. Community Based Telepsychiatry Service for Older Adults Residing in a Rural and Remote Region- Utilization Pattern and Satisfaction among Stakeholders. *BMC Psychiatry* 2018;18:316.
 70. Elbaz S, Cinalioglu K, Sekhon K, Gruber J, Rigas C, Bodenstein K, Naghi K, Lavin P, Greenway KT, Vahia I, Rej S, Sekhon HA Systematic Review of Telemedicine for Older Adults with Dementia During COVID-19: An Alternative to In-Person Health Services? *Front Neurol* 2021;12.
 71. Newmark J, Gebara MA, Aizenstein H, Karp JF. Engaging in Late-Life Mental Health Research: A Narrative Review of Challenges to Participation. *Curr Treat Options Psychiatry* 2020;7(3):317–36.
 72. Kar SK, Oyetunji TP, Prakash AJ, Ogunmola OA, Tripathy S, Lawal MM, Sanusi ZK, Arafat SMY. Mental Health Research in the Lower-Middle-Income Countries of Africa and Asia during the COVID-19 Pandemic: A Scoping Review. *Neurol Psychiatry Brain Res* 2020;38:54–64.

Acknowledgements – Nil

Conflict of Interest – Nil

Funding – Nil