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The psychosocial impacts of social isolation caused by public health strategies as a preventative measure of the spread of the COVID-19 on elderly adults: A systematic review

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Abstract

An The objective of this systematic review was to investigate the psychosocial impacts of social isolation caused by public health strategies as a preventative measure of the spread of the Coronavirus Disease 2019 on elderly adults. This research was conducted based on the mental health impact of previous pandemics including SARS and MERS, which showed significant effects, namely the increase in the suicide rate in Hong Kong during the SARS pandemic. The geriatric population was labeled as a "group at risk", due to knowledge of previous public health crises as well as predisposing risk factors of increased age such as lower immunity and other affiliated comorbidities such as chronic pulmonary and cardiac conditions, diabetes, and hypertension, increasing the severity of SARS-CoV-2. Results have displayed that while being crucial to control the spread of the coronavirus 2019 disease, physical distancing and isolation measures taken by authorities internationally, especially focusing on groups at risk, can result in social isolation and loneliness. These primary psychosocial impacts cause serious secondary mental health impacts including depression, anxiety, and suicide. A distinct association between social isolation and loneliness with depressive symptoms was established, where being isolated and/or lonely displayed higher depression scores. Loneliness, social disconnectedness and not wanting to be a burden to relatives were associated with the increase in suicide rates, as projected in the previous epidemic SARS in 2003. This paper calls upon the action of communities, and policymakers in assisting the coping of older adults to solve a worldwide problem that needs to be addressed.

Keywords: COVID-19, Elderly, Quarantine, Social Isolation, Mental Health

Introduction

On the 11th of March 2020, the World Health Organization (WHO) announced the severe acute respiratory syndrome coronavirus 2 as a global pandemic, which originated from the Wuhan provinces of the People's Republic of China in December 2019 (Mackolil and Mackolil, 2020). Since being declared as a 'public health emergency of international concern', the pandemic has significantly impaired public health, economy, and the everyday life of billions. Although postulated to be less deadly than its precursors the severe acute respiratory syndrome (SARS) and the Middle East Respiratory Syndrome (MERS), SARS-CoV-2 is much more contagious (Banerjee, 2020). To prevent the spread of COVID-19, authorities all over the world imposed strict public health

measures, including the utilization of facial masks, rules of personal hygiene, maintenance of "physical distancing" of 6 feet and additional strategies such as suspension of all non-vital labor, lockdowns, and mandatory quarantine (Erden Aki, 2021).

However, the United Nations emphasized that, although the pandemic is a physical health crisis first, it has the potential to develop into a major mental health crisis as well, specifically for at-risk populations such as older adults. According to the CDC (2021), "mental health includes our emotional, psychological, and social well-being. It also helps determine how we handle stress, relate to others, and make healthy choices." Though crucial to control the spread of the coronavirus 2019, physical distancing and isolation measures taken by authorities internationally, especially focusing on groups at risk, can result in social isolation and loneliness (De Pue et al., 2021). Studies that examined the physical vulnerability of the geriatric population concluded that predisposing risk factors of increased age and ageism such as lower immunity and other affiliated comorbidities such as chronic pulmonary and cardiac conditions, diabetes and hypertension increased the severity of SARS-CoV-2 and put them at a higher risk for fatality due to the virus (Mackolil and Mackolil, 2020).

Studies have proven that physical and social separation from those dearest to them, particularly during difficult times, may result in complicated grief and collective trauma reactions (Campbell, 2020). As older adults, especially those with preexisting medical condition are at a heightened risk, are subject to more mandatory quarantine and physical distancing measures, they have a higher potential for increased social isolation. Social isolation is commonly associated with poorer mental health outcomes and loneliness. (Campbell, 2020).

Among other things, worry and health-related fear mean the elderly are as susceptible to the virus as to its psycho-social impact. Subsequently, it is crucial to draw attention to the mental health of senior citizens to raise awareness of the need of additional care and psychological support. In this systematic review, I will be introducing the different primary and secondary mental health impacts prompted by public health strategies to prevent the spread of the coronavirus 2019 and their associated risk factors in older adults.

Methods

With the coronavirus pandemic recently taking the world by storm, related literature has been increasing rapidly. Although there are a multitude of resources available about covid-related populations at risk of mental health complications in the general population, few focus on the impacts of COVID-19 on mental health of the elderly population and most studies were conducted either in the very early stages of the pandemic when social distancing was recommended but lockdown was not yet instated, or lockdown was in its early stages. Only a scarce number of studies mention the pandemic's secondary mental health impacts, particularly suicide, on the geriatric population, however, often included a meta-analysis of groups at risk and so lacked sufficient focus on qualitative results.

A systematic review was conducted with the aim of identifying primary and secondary mental health impacts of public health measures to prevent the spread of COVID-19. An analysis of search results was led using PubMed to access articles that matched the preestablished set of search terms: COVID-19, senior citizens, and mental health. Studies with a focus on COVID-19 patients and the mental health effect of being sick with the coronavirus were excluded because the research question assessed specifically the impacts of public health measures due to COVID-19. Papers that concentrated on the mental health of healthcare workers were excluded, as they were not put through the same public health measures as the general elderly public and often exposed to additional psychological stress, which may impact the validity of my results. Research that involved specific secondary mental health impacts related to COVID-19 such as depression,

anxiety and suicide were included if enough qualitative data was available. After each stage of analysis, Zotero was used to organize included studies, which were removed if found irrelevant to the study.

To assess the quality of the articles, three phases of analysis were performed resulting in the exclusion of articles.

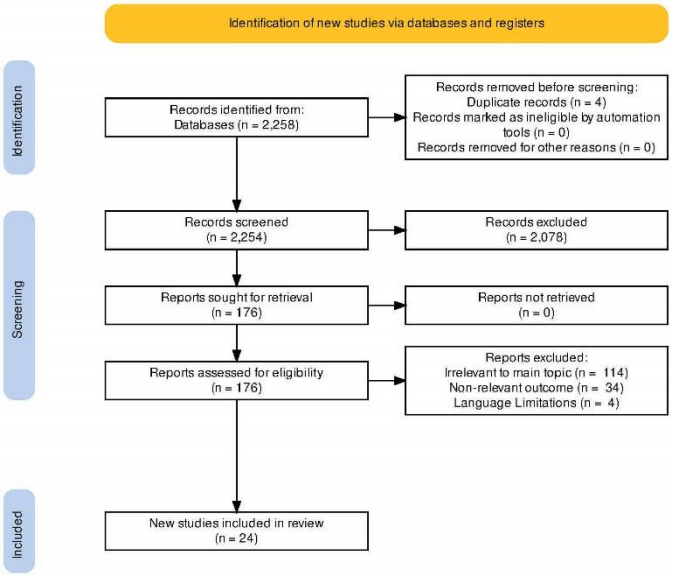

FIGURE 1: PRISMA flow diagram detailing the search and selection process of 2,258 records evaluated in this systematic review.

First the title of 2,258 articles was scanned and those that were irrelevant to the main topic were excluded. Irrelevance was established if the title did not include the predetermined set of keywords: COVID-19, senior citizens, and mental health. Additionally, 4 duplicate records were identified and removed automatically by the Zotero extension. Next, the abstract of the remaining articles was surveyed and those that had a non-relevant outcome or were irrelevant to the topic of the research question were excluded, leaving 176 papers. Finally, a full-text scan was performed, inspecting the quality and validity of the article, by referencing the number of citations and the format of the paper. There were three main reasons why papers were excluded in the full-text scan. Firstly, 114 studies were excluded because the results were irrelevant to the main topic, most referring to groups at risk for mental health complications due to COVID-19, instead of its impacts on the geriatric population. A further 34 papers were excluded as they had a non-relevant outcome, often focusing on quantitative rather than qualitative data, and being conducted earlier in the pandemic where the correlation between the impacts of COVID-19 public health measures and mental health were weak. The last 4 studies were excluded, due to language limitations, two of which written in Chinese with poor translation, one written in German and the last in Japanese. Research papers that lacked quality were finally excluded, leaving the 24 studies included in the systematic review.

Results

Primary impacts: Social isolation and loneliness

For older adults who live alone more often than younger individuals (Müller et al., 2021), the arrival of dear ones, such as friends and family, are a significant source of social interaction and delight. However, social distancing measures imposed upon them due to COVID-19, mean the geriatric population is confined within their homes and have limited contact to the outside world (Mackolil and Mackolil, 2020). This lack of social interaction may cause a large majority of the geriatric population to feel lonely, as they may have lost their significant other to old age and must now also limit contact to family to protect themselves. As elderly individuals already suffered with social isolation and loneliness in the absence of the pandemic, this resulted in a surge of social isolation among older adults paired with intensified worry about the health of family members and friends, as well as their own (Erden Aki, 2021). Loneliness can be defined as "the subject feeling of being alone, while social isolation describes and objective state of individuals' social environments and interactional patterns" (Hwang et al., 2020). Social isolation can have damaging effects on the elderly and studies have shown a strong relationship between

"social isolation and loneliness with increased mortality, decreased functioning, increased risk of Alzheimer's disease" (Müller et al., 2021), as well as depression and suicidal attempts (Erden Aki, 2021). The impacts of social isolation and linked loneliness are especially damaging in the geriatric population due to their increased dependence on others. Many individuals in the elderly population require servants or other family member for their daily functioning and may rely on medication, housekeeping or have specific dietary needs. As a result of the containment laws, servants have stopped providing services and relatives are no longer allowed to visit them to protect their physical health. This in turn has led to a reduction in their quality of life with many older adults overstrained by the lack of necessitated help, leaving older adults helpless and lonely (Mackolil and Mackolil, 2020).

Additionally, further loneliness and isolation is caused by the geriatric population's lack of technological expertise. In times of constrained travel, online platforms offer an alternative to stay connected with loved ones and meet the need to socialize. Due to most elderly individual's lack of skill with using technology, they may not be able to use technology to reach out to family, friends, and other members of the community, placing them at a disadvantage as their social needs are not met (Mackolil and Mackolil, 2020). It also means they may have difficulties accessing online services such as religious or spiritual services, home-delivery services, medical assistance, and virtual therapy session (Mackolil and Mackolil, 2020), leaving the geriatric population with a limited use of services and requirements. Moreover, their inexperience with technology may expose them to ill-information and fake news because they may be unable to check the authenticity of new sources, placing them at a higher risk of experiencing symptoms such as fear, health anxiety, and loss of hope. These coupled with their inability to use social media as a tool may result in boredom and loneliness and may develop further into even more damaging mental health consequences.

However, the impact of loneliness caused by social isolation due to COVID-19, is not to be underestimated. Loneliness is associated with a general decrease in wellbeing of a person and can lead to various physical and mental repercussions, including elevated systolic blood pressure as well as an increased risk for cardiac disease (Hwang et al., 2020). A combination of loneliness and social isolation have also been affiliated with an increased risk for coronary artery disease-associated death, despite having no prior history of heart attacks (Hwang et al., 2020). This poses another significant risk, especially for older adults, who may already be facing various physical health issues associated with age being an independent risk factor for a higher rate of all-cause mortality (Hwang et al., 2020). Being lonely also provokes adverse impacts on mental health including reduced time in bed spent asleep with a 7% reduction in sleep efficiency and increased wake times (Hwang et al., 2020). While loneliness may cause adverse health impacts such as physiological stress responses, social isolation is more closely associated with changes in behavior. Behavioral changes observed due to social isolation include the adoption of an unhealthy lifestyle such as smoking, substance use, decreased levels of physical activity and non-compliance with medical prescriptions (Hwang et al., 2020). Especially the latter could lead to fatal consequences for the geriatric population, especially for those affected by dementia and Alzheimer's disease.

Secondary impacts: Depression and anxiety

The onset of a new pandemic is fear-inducing, especially for older people who are considered at higher risk of for the virus. Confinement and mandated isolation, while necessary to prevent the spread of COVID-19 may cause experiences such as depressive symptoms, pessimism, deteriorations in cognition, and disruption in sleeping patterns, which is, according to Buenaventura et al. (2020), "consistent with known psychological reaction of stress, anxiety loneliness, and agitation in a

pandemic." Depression is defined as "a common and serious medical illness that negatively affects how you feel, the way you think and how you act," by the American Psychiatric Association (2021). Since the outbreak of COVID-19, 37.1 % of elderly in China displayed symptoms of depression and anxiety (Buenaventura et al., 2020). Postulated causes of these symptoms include the disruption of daily activities for the geriatric population, which can pose a negative impact on older individual's cognitive impairment, leading to poorer mental health, namely anxiety and depression.

Loneliness and social isolation, which are direct results of the infection control measures, particularly lockdowns, have a consistent relationship with depressive symptoms. A study conducted by Müller et al (2021) presented distinctive results of a clear association between social isolation and loneliness with depressive symptoms, where being not isolated and lonely and being isolated and lonely both displayed higher depression scores. While older individuals were less likely to suffer adverse mental health outcomes than younger individuals under normal circumstances due to their resilience, their increased risk of social isolation and loneliness without the prospect of direct contact due to the restriction imposed on them, means they are more vulnerable than ever. People being treated for conditions concerning mental health prior to COVID-19, were particularly prone to fear, anxiety, and depression with levels increasing so far, they sometimes surpassed the initial complaints, deepened by greater loneliness caused by social isolation measures, reporting that the more distant social relationships throughout the pandemic, the higher the depression levels (Tyler et al., 2021). Similarly, self-perceived disconnectedness from family, friends, and the community has resulted in heightened anxiety and depressive symptoms (Mukhtar, 2020).

Secondary impact: Suicide

The long-term restrictions applied to elderly people (aged above 70) in the form of quarantine and lockdowns have resulted in serious mental health consequences, above all suicidal feelings. The number of calls from older people to call centers, where people call if they have suicidal feelings, has reported an increase of 60% with a large proportion of the rise accounted for by the geriatric population (Skoog, 2020). The reason for this significant increase lies with the social isolation senior citizens have experienced, because of the lack of social contact with relatives, friends, and the community. This surge in suicidal feelings has led to a significant increase in suicide rates in the elderly population (Shuja et al., 2020), which may have been amplified by their lack of technological expertise (mentioned earlier), as most of the members of the geriatric population may be unable to reach out to call centers and may not want to burden their family (Wand et al., 2020).

The geriatric population is especially prone to the adverse effects of isolation, namely suicide, as living alone, social isolation and loneliness are well-known to increase the risk of suicide in later life (Wand et al., 2020). Even before public health measures such as quarantine exacerbated loneliness and social isolation leading to suicide, according to WHO, the elderly had higher rates of suicide than the general population (Sheffler et al., 2020). The Interpersonal Theory of Suicide (IPTS) explains why individuals engage in suicidal behavior, posing that capability to commit suicide is to be differentiated from the desire to engage in suicidal behaviors. Thwarted belongingness and perceived burdensomeness make up the desire for suicide, while genetics, habituation when repeatedly faced with painful or fear-inducing scenarios, and lived experiences may influence capability (Sheffler et al., 2020). Strict social distancing measures mandated for older adults, leading to social isolation and ethical treatment guidelines of COVID-19 are thought to increase the desire for suicide by cultivating thwarted belongingness and perceived burdensomeness.

According to Sheffler et al. (2020), thwarted belongingness includes the absence of reciprocal care and loneliness. Public health measures are disrupting the already smaller networks of the geriatric population, by confining them to their homes, increasing social isolation. Social isolation linked to social distancing policies might distress psychological functioning and late-life health, aggravating the existing risks for suicide. Similarly, the absence of positive social relationships and loneliness among older adults provide substantial risk factors when concerning morbidity, mortality, and suicide (Sheffler et al., 2020).

"Perceived burdensomeness is the belief that one it a burden on other or on society" (Sheffler et al., 2020). Perceived burdensomeness is especially prone in older adults during the coronavirus 19 pandemic, due to the fear of becoming infected and then being a burden to their families or infecting other family members (Rana, 2020). This is proven by the SARS epidemic in 2003, as causes of suicide among adults aged 65 and older, related to the fear of becoming infected and then being a burden to relatives. Further proof is available when concerning the situation in India currently, with 80 of the 300 non-coronavirus deaths reported during the lockdown caused by the fear of being infected or loneliness (Rana, 2020). Additionally, articles published during the pandemic that discuss the ethical decision of intensive care specialists of denying life-saving care to those most heavily affected, usually older people, with age being one of the main criteria to deny services, send the elderly the message, that they are a burden on society. The medical consensus of saving those with more years left, portrays the geriatric population as expendable, which may cause them to develop perceptions of being a burden to a society better off without them (Sheffler et al., 2020).

To establish the extent of the suicide risk associated with COVID-19 and its implications, drawing on previous public heath crises, such as SARS is beneficial. The 2003 severe acute respiratory syndrome (SARS) epidemic exhibited detrimental mental health effects in older adults. In Hong Kong, the suicide rate after the SARS epidemic skyrocketed from a previous suicide rate of 28.4 per 100,000 in 2002 to a suicide rate of 40.4 per 100,000 in 2003 (Chong et al., 2020). Deductions for what aspect of the epidemic this may have resulted from included loneliness and disconnectedness, (Chong et al., 2020) as well as fear of getting infected, anxiety over social isolation and not wanting to be a burden to relatives (Erden Aki, 2020). The association between increased suicide risk and loneliness has been proven by multiple studies, determining an association between loneliness and both suicide attempts and completed suicide (Hwang et al., 2020). The suicidal incidences of among specifically elderly adults in Hong Kong following the SARS epidemic, rose by 31%, being especially prone in elderly women, postulated to be because of difficulties in gaining access to social support and healthcare services, due to a lack of technological expertise (Erden Aki, 2020). This provides a justified prediction of the extent of the detrimental impact, COVID-19 may have on suicides in the elderly population.

Discussion

In this systematic review, the psychosocial impacts of social isolation caused by public health strategies to prevent the spread of the coronavirus 2019 pandemic were evaluated. Overall, the geriatric population faced social isolation effectuated by the mandated public health measures such as lockdowns to prevent the spread of the coronavirus 2019. This caused a multitude of adverse secondary effects chiefly loneliness, depression, anxiety, and suicide due to a lack of social interaction and communication driven by both the lack of social contact with friends and family due to public health measures and their lack of technological expertise. The mental and physical health impact of social isolation and loneliness should not be underestimated, providing potentially fatal

consequences for the geriatric population, its primary impacts resulting in suicide.

Limitations to my findings included the recent appearance of the coronavirus 2019 pandemic, meaning in most cases researchers could only predict or suggest the long-term impact of the isolation methods associated with the virus. Additionally, many of the studies included in this research paper were released when lockdown was still in its early stages, meaning the full extent of the long-lasting quarantine measures were not considered. It is also important to note, that inclusion and exclusion criteria and its application may have been biased, as a certain outcome was preferred. Studies that contradicted the preferred outcome of the research question were excluded, so certain factors such as the increased resilience of the geriatric population were not considered.

This systematic review has highlighted the detrimental effect that the coronavirus pandemic has had and will have on elderly individuals. Therefore, it is crucial to provide coping mechanisms, as this may lessen the long-term impact of the pandemic on the mental health of older adults. Some positive coping strategies that may assist older adults in staying resilient, include walking outdoors, breathing exercise, adjusted daily routines, and keeping socially connected with friends and family (Finlay et al., 2021). Communities should support elderly individuals by creating social infrastructure for mutual support and transmission reduction (Finlay et al., 2021). Grocery stores could, for example, introduce special shopping hours for older and at-risk populations or communities could organize mutual-aid groups that deliver groceries, medications, and other essential supplies needed by vulnerable population. Policymakers should strengthen infrastructure to allow for vulnerable populations to have access to essential resources, services, and reliable public health messaging. Investments in areas such as neighborhood infrastructure may encourage regular physical activity, which benefits mental and physical health and promote social cohesion (Finlay et al., 2021). Adopting these steps may help the geriatric population to keep social connections with family and the community, maintain healthy activities and control their emotions and psychiatric symptoms, leading to a possible relief in the adverse consequences of loneliness and isolation (Hwang et al., 2021).

The mental health of elderly individuals worldwide needs to be addressed and acting now is crucial to be able to aid them during the post-pandemic period. Further research should be invested in developing virtual health care (advancing telehealth), new technology to solve issues addressed in this systematic review and changing government policies to include and consult members of the geriatric population in future decisions.

References

Baker, Edward, and Louise L. Clark. "Biopsychopharmacosocial Approach to Assess Impact of Social Distancing and Isolation on Mental Health in Older Adults." British Journal of Community Nursing 25, no. 5 (May 2, 2020): 231–38. https://doi.org/10.12968/bjcn.2020.25.5.231

Banerjee, Debanjan. "'Age and Ageism in COVID-19': Elderly Mental Health-Care Vulnerabilities and Needs." Asian Journal of Psychiatry 51 (June 2020): 102154. https://doi.org/10.1016/j.ajp.2020.102154.

Blix, Ines, Marianne Skogbrott Birkeland, and Siri Thoresen. "Worry and Mental Health in the Covid-19 Pandemic: Vulnerability Factors in the General Norwegian Population." BMC Public Health 21, no. 1 (May 17, 2021): 928. https://doi.org/10.1186/s12889-021-10927-1

Buenaventura, Robert D., Jacqueline B. Ho, and Maria I. Lapid. "COVID-19 and Mental Health of Older Adults in the Philippines: A Perspective from a Developing Country." International Psychogeriatrics 32, no. 10 (October 2020): 1129–33. https://doi.org/10.1017/S1041610220000757.

Campbell, Anthony D. "Practical Implications of Physical Distancing, Social Isolation, and Reduced Physicality for Older Adults in Response to COVID-19." Journal of Gerontological Social Work 63, no. 6–7 (October 2020): 668–70. https://doi.org/10.1080/01634372.2020.1772933.

Chong, Terence W. H., Eleanor Curran, David Ames, Nicola T. Lautenschlager, and David J. Castle. "Mental Health of Older Adults during the COVID-19 Pandemic: Lessons from History to Guide Our Future." International Psychogeriatrics 32, no. 10 (October 2020): 1249–50. https://doi.org/10.1017/S1041610220001003.

De Pue, Sarah, Céline Gillebert, Eva Dierckx, Marie-Anne Vanderhasselt, Rudi De Raedt, and Eva Van den Bussche. "The Impact of the COVID-19 Pandemic on Wellbeing and Cognitive Functioning of Older Adults." Scientific Reports 11,

no. 1 (February 25, 2021): 4636. https://doi.org/10.1038/s41598-021-84127-7.

Erden Aki, Ş Özlem. "Letter To The Editor - Covid-19 Pandemic And The Mental Health Of The Elderly." Turk Psikiyatri Dergisi = Turkish Journal of Psychiatry 31, no. 3 (2020): 221–23.

Finlay, Jessica M., Jasdeep S. Kler, Brendan Q. O'Shea, Marisa R. Eastman, Yamani R. Vinson, and Lindsay C. Kobayashi. "Coping During the COVID-19 Pandemic: A Qualitative Study of Older Adults Across the United States." Frontiers in Public Health 9 (2021): 643807. https://doi.org/10.3389/fpubh.2021.643807.

Gorenko, Julie A., Chelsea Moran, Michelle Flynn, Keith Dobson, and Candace Konnert. "Social Isolation and Psychological Distress Among Older Adults Related to COVID-19: A Narrative Review of Remotely-Delivered Interventions and Recommendations." Journal of Applied Gerontology: The Official Journal of the Southern Gerontological Society 40, no. 1 (January 2021): 3–13. https://doi.org/10.1177/0733464820958550.

Neal R Haddaway, Chris C Pritchard, Luke A McGuinness. (2021). PRISMA2020: R package and ShinyApp for producing PRISMA 2020 compliant flow diagrams. Zenodo. http://doi.org/10.5281/zenodo.4287834

Herron, Rachel V., Nancy E. G. Newall, Breanna C. Lawrence, Doug Ramsey, Candice M. Waddell, and Jennifer Dauphinais. "Conversations in Times of Isolation: Exploring Rural-Dwelling Older Adults' Experiences of Isolation and Loneliness during the COVID-19 Pandemic in Manitoba, Canada." International Journal of Environmental Research and Public Health 18, no. 6 (March 15, 2021): 3028. https://doi.org/10.3390/ijerph18063028.

Hwang, Tzung-Jeng, Kiran Rabheru, Carmelle Peisah, William Reichman, and Manabu Ikeda. "Loneliness and Social Isolation during the COVID-19 Pandemic." International Psychogeriatrics 32, no. 10 (October 2020): 1217–20. https://doi.org/10.1017/S1041610220000988.

Mackolil, Julia, and Joby Mackolil. "Why Is Mental Health of the Geriatric Population at a Higher Risk during the COVID-19 Pandemic?" Asian Journal of Psychiatry 54 (December 2020): 102401. https://doi.org/10.1016/j.ajp.2020.102401.

Mukhtar, Sonia. "Psychosocial Impact of COVID-19 on Older Adults: A Cultural Geriatric Mental Health-Care Perspectived." Journal of Gerontological Social Work 63, no. 6–7 (October 2020): 665–67. https://doi.org/10.1080/01634372.2020.1779159.

Müller, Felix, Susanne Röhr, Ulrich Reininghaus, and Steffi G. Riedel-Heller. "Social Isolation and Loneliness during COVID-19 Lockdown: Associations with Depressive Symptoms in the German Old-Age Population." International Journal of Environmental Research and Public Health 18, no. 7 (March 31, 2021): 3615. https://doi.org/10.3390/ijerph18073615.

Rana, Usha. "Elderly Suicides in India: An Emerging Concern during COVID-19 Pandemic." International Psychogeriatrics 32, no. 10 (October 2020): 1251–52. https://doi.org/10.1017/S1041610220001052.

Sepúlveda-Loyola, W., I. Rodríguez-Sánchez, P. Pérez Rodríguez, F. Ganz, R. Torralba, D. V. Oliveira, and L. Rodríguez-Mañas. "Impact of Social Isolation Due to COVID-19 on Health in Older People: Mental and Physical Effects and Recommendations." The Journal of Nutrition, Health & Aging 24, no. 9 (2020): 938–47. https://doi.org/10.1007/s12603-020-1469-2.

Sheffler, Julia L., Thomas E. Joiner, and Natalie J. Sachs Ericsson. "The Interpersonal and Psychological Impacts of COVID-19 on Risk for Late-Life Suicide." The Gerontologist 61, no. 1 (January 21, 2021): 23–29. https://doi.org/10.1093/geront/gnaa103.

Shuja, Kanwar Hamza, null Shahidullah, Muhammad Aqeel, Ejaz Ahmed Khan, and Jaffar Abbas. "Letter to Highlight the Effects of Isolation on Elderly during COVID-19 Outbreak." International Journal of Geriatric Psychiatry 35, no. 12 (December 2020): 1477–78. https://doi.org/10.1002/gps.5423.

Skoog, Ingmar. "COVID-19 and Mental Health among Older People in Sweden." International Psychogeriatrics 32, no. 10 (October 2020): 1173–75. https://doi.org/10.1017/S104161022000143X.

Steinman, Michael A., Laura Perry, and Carla M. Perissinotto. "Meeting the Care Needs of Older Adults Isolated at Home During the COVID-19 Pandemic." JAMA Internal Medicine 180, no. 6 (June 1, 2020): 819–20. https://doi.org/10.1001/jamainternmed.2020.1661.

Tyler, Carmen M., Grace B. McKee, Elisabet Alzueta, Paul B. Perrin, Kristine Kingsley, Fiona C. Baker, and Juan Carlos Arango-Lasprilla. "A Study of Older Adults' Mental Health across 33 Countries during the COVID-19 Pandemic." International Journal of Environmental Research and Public Health 18, no. 10 (May 11, 2021): 5090. https://doi.org/10.3390/ijerph18105090.

Wand, Anne Pamela Frances, Bao-Liang Zhong, Helen Fung Kum Chiu, Brian Draper, and Diego De Leo. "COVID-19: The Implications for Suicide in Older Adults." International Psychogeriatrics 32, no. 10 (October 2020): 1225–30. https://doi.org/10.1017/S1041610220000770.

Yang, Yuan, Wen Li, Qinge Zhang, Ling Zhang, Teris Cheung, and Yu-Tao Xiang. "Mental Health Services for Older Adults in China during the COVID-19 Outbreak." The Lancet. Psychiatry 7, no. 4 (April 2020): e19. https://doi.org/10.1016/S2215-0366(20)30079-1.