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Social Isolation in Dementia: The Effects of COVID-19

Aurora Curelaru, Sarah J. Marzolf, Jean-Claude K.G. Provost, Helen H.H. Zeon



ABSTRACT

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The aim of this literature review is to identify the effects of social isolation and loneliness on persons with dementia and to highlight interventions for private homes and long-term care facilities. It includes articles published in the last 5 years for a total of 45 articles. Social isolation and/or loneliness is linked to reduced quality of life, neuropsychiatric symptoms, and psychotropic drug use in people living with dementia. Interventions, including physical activity, should be individualized and patient centered.

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Loneliness and social isolation are well-known risk factors for the development and progression of a variety of conditions such as cardiovascular disease, functional decline, depression, and dementia. In the general population, social isolation and loneliness increase the risk of mortality by 29% and 26% respectively. Before the current COVID-19 pandemic, social isolation and loneliness were significant public health concerns with an estimated prevalence of 40% to 60% in the United States.¹ The World Health Organization identified loneliness as a significant public health concern worldwide in 2019.² As calls for social distancing and limiting social interactions have increased to help control the spread of COVID-19, social isolation and loneliness have surged among some segments of the population.

Dementia ranks among the diseases that are most affected by loneliness and social isolation. Globally about 47 million people suffer from dementia.³ More than 5 million people in the United States are affected by Alzheimer's disease (AD), and this is projected to triple by 2050.⁴

Restrictions on social interactions have been the foundation of the strategy to control COVID-19. These restrictions have drastically decreased opportunities to socialize for people living with dementia, for those living in both private homes and institutional settings. People experiencing dementia are prone to accelerated progression of their disease due to restrictions in social interactions. Under normal circumstances, people living with dementia in congregate settings are offered opportunities for socialization during various activities. People residing in facilities are more prone to health frailty; multiple comorbidities including anxiety and depression; and behavioral manifestations frequently calling for the use of high-risk psychotropic medications.⁵ Those living in congregate settings are particularly at risk for worsening health as a result of increases in loneliness and social isolation because most facilities have a no-visitor rule in effect during the

COVID-19 pandemic.⁶ Also, activities in these settings are reduced, often confining patients to their rooms, further exacerbating isolation and feelings of loneliness.⁷

Loneliness is described as a perceived state of social and emotional isolation.⁸ Loneliness has been shown to affect the brain physiology in cognitively intact older adults by increasing the amyloid burden, a biomarker of AD dementia. Donovan et al suggested that loneliness be considered a risk factor in the evaluation of preclinical AD, as self-reported loneliness was associated with an increased amyloid burden.⁷⁻⁹

In contrast to the subjective feeling of loneliness, social isolation is defined as the objective physical separation from others.¹⁰ Lack of social relationships has been associated with decreased quality of life (QOL), activities of daily living (ADL) dependency, neuropsychiatric symptoms, and increased dementia disease severity.¹¹

Detrimental Effects of Decreased Socialization in Dementia

Several studies, including the English Longitudinal Study of Ageing (ELSA),¹² the Betula Study in Sweden,¹³ and the meta-analysis of longitudinal studies,^{14,15} have pointed out that perceived loneliness is an important risk factor for all causes of dementia. Sundstrom et al¹³ clarified that loneliness is a considerable risk factor for AD but not for vascular dementia, supporting Donovan et al⁸ in their correlation between loneliness and amyloid burden. In their meta-analysis of social relationships and dementia risk, Kuiper et al¹⁶ found a statistically significant correlation between dementia incidence and loneliness. However, they found insufficient evidence to establish a correlation between an increased feeling of loneliness with an increase in dementia severity. The lack of evidence was mostly driven by the heterogeneity between studies, populations, outcomes, measurement of the determinants, and methodologies applied. Grande et al

theorized that the protective effect of social interaction hinges on a “use it or lose it” theory. Social interaction helps buffer stress, promotes neurogenesis, and increases synapse density. Additionally, people with mild cognitive impairment who live alone were 50% more likely to develop dementia than those who lived with others.¹⁷

Isolation and loneliness also speed dementia progression. Loneliness was associated with more rapid declines in memory and language fluency than nonlonely controls in the 10-year follow-up of the English Longitudinal Study of Ageing.¹⁸ Porcelli et al¹⁹ concluded that social deprivation negatively affects cognitive performance in people with dementia.

Positive Effects of Social Interaction

Social interactions are correlated with increased QOL for people with dementia. Social interactions play a crucial role in easing some of dementia’s most devastating symptoms. Ballard et al²⁰ focused on a randomized-controlled cluster trial in 69 United Kingdom nursing homes with the emphasis on psychosocial interventions to decrease agitation and improve QOL. Interventions included staff education regarding patient-centered care, increased social interactions, and proper use of antipsychotic medications. According to study results, improvements were observed in QOL, agitation, and neuropsychiatric symptoms, particularly in patients with moderately severe dementia living in nursing homes.

An observational study by Beerens et al²¹ supported the connection between social contacts and mood in people with dementia. The authors studied older adults, mostly women, residing in long-term care facilities and found that a higher number of social contacts correlated with better mood, regardless of the type of social activity. Better mood was also associated with being outdoors. This study further observed that mood was negatively affected when a person tried to interact, but the interaction was not reciprocated.

Other studies have shown similar positive effects of social interactions for people with dementia. Engagement and communication with visitors have been proven to provide contentment in people with AD.⁴ Story-sharing activities were shown to be effective in improving QOL in people with milder dementia in a memory care setting and less effective in people with severe dementia.²² A systematic review and meta-analysis of social isolation and cognitive function in later life found that participation in social activities was significantly associated with improved cognitive outcomes.¹⁴

Interventions

The current state of COVID-19 and the need for social distancing exacerbate the consequences of social isolation and loneliness in older adults, therefore making it more difficult for people with dementia and their caregivers to access the mitigating effects of social interactions on dementia-related symptoms. Numerous studies have evaluated the effectiveness of interventions to address social isolation and loneliness in older adults; however, results are contradictory, and many studies are of low quality.^{10,23-28} Thus, findings are challenging to disseminate into practical use. Inconsistency in study conclusions are the result of the subjective nature of loneliness and social isolation. Also, intervention categories represent different meanings in each study, making it hard to determine appropriate intervention mechanisms to replicate studies.²⁵ Furthermore, effective interventions that meet the current need for social distancing are extremely limited. Replacing in-person interactions with technology-mediated interactions is also understudied.²⁹

To achieve positive outcomes in addressing social isolation and loneliness in older adults, an individualized, patient-centered approach should be used when addressing social isolation and loneliness.^{22-24,26,29-32} Older adults who actively participate in the creation and execution of goals, interventions, implementation, and evaluation have better outcomes.^{27,28,33} Careful consideration should be paid to the participant’s limitations when creating interventions. For example, interventions may place a higher burden on those who lack access, such as older adults who are socioeconomically disadvantaged or those with cognitive impairment or sensory impairments.²⁶

Interventions to address social isolation and/or loneliness may differ depending on the setting in which the individual lives and the severity of dementia. Interventions with evidence of efficacy include reminiscence therapy, shared activities, and indirect interventions. Reminiscence therapy involves sharing stories and fostering a shared interaction that reduces social isolation and loneliness.²⁸ This is an intervention that could be appropriate in both private homes and institutional settings and can be effective for a wide range of dementia severity. According to available evidence, even though people living with advanced stages of dementia may not be able to verbally participate in a conversation, they are able to track conversations with an emotional element.³⁴

Additional interventions might include shared activities, such as an indoor gardening program, playing video games (Nintendo), social clubs, and listening to the radio with both group and individual participation. Personal contact, either with another person or animal, is an effective intervention to improve social isolation and loneliness.²⁸ Indirect interventions are achieved by removing barriers to interaction with others such as providing hearing aids to those with hearing loss, providing mobility aids to those for whom mobility is a barrier, or providing transportation.²⁶

In the age of social distancing, the use of technology is an increasingly popular option for improving social connectedness. Remote connections with family members satisfy the public health recommendation for social distancing by remotely connecting older adults with family and friends²⁶ via video conferencing²² and the use of social media such as Facebook and Whatsapp.^{26,35} Bzdok and Dunbar² reported that virtual face-to-face interaction is superior to nonvisual modes of communication, such as the telephone. Simonetti et al³⁶ stated that the use of technology is one of the most realistic methods of addressing the increase in isolation for older adults.

Tele-technology can also be used to access various modes of behavioral and mental health therapies. Tele-behavioral activation (tele-BA) is the virtual version of behavioral activation, which is a treatment modality for depression and other mood disorders. Tele-BA is focused on engaging patients in social activities and therefore decreases symptoms of depression and isolation. It is aligned with personal values focusing on social connectedness and was found to be a promising intervention that increases social interaction and decreases loneliness and depression.³⁷ Tele-friendly visits (tele-FV) is a less structured virtual interaction than tele-BA and presents with comparable benefits. Both tele-BA and tele-FV suggest the feasibility and effectiveness of using technology to deliver interventions for homebound older adults who report social isolation.³⁸

Remotely delivered cognitive-behavioral therapy conducted by a therapist decreases depression and anxiety, which can be a practical and feasible intervention for social isolation and loneliness.³⁰ Summary findings from the report “Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System” confirmed psychotherapeutic approaches such as cognitive-behavioral therapy and mindfulness-based approaches reduce social isolation and loneliness.^{26,39} The use of robotic animals also found a positive benefit in older adults with dementia.³²

A recent review of available knowledge on the effects of the COVID-19 pandemic on the neuropsychiatric symptoms in dementia found a reported increase in apathy, anxiety, and agitation among the population living with dementia. Recommendations included the maintenance of activities such as exercise, listening to music, cooking, gardening, or reading to treat apathy. Anxiety can be eased by preserving daily routines and simplifying routines when possible. The recommended treatment of mood-related manifestations involved the use of technology to connect with loved ones.³⁶

Other Mitigating Factors

Decreases in social interactions during the COVID-19 pandemic might not be able to be fully mitigated given current restrictions on visitation and interactions.⁴⁰ However, there are other ways to help fight the steepening curve of cognitive decline associated with loneliness and isolation, which are in accordance with current social distancing rules. Cognitive or physical activities (PA) are beneficial in patients with dementia, but according to a meta-analysis study, blending the two has a great outcome in improving ADL and, to a lesser degree, improving mood.⁴¹ Interventions targeted at supporting people with dementia and their caregivers are multifactorial. Countless benefits linked directly to physical and cognitive interventions have been shown to be a vital aspect in planning and delivering their care.

Multiple studies have demonstrated that PA is valuable for people with dementia. A meta-analysis study found that PA in place of, or in addition to, pharmaceuticals is beneficial in improving cognitive symptoms and function in patients with dementia.⁴¹ Interestingly, combined aerobic and nonaerobic PAs were found to be advantageous in improving cognition, while nonaerobic exercise alone showed no benefit.⁴² Aerobic and strengthening exercises, particularly targeted toward improving ADL independence, are linked to improved QOL in patients with dementia residing in nursing homes.⁴³ In a randomized controlled study, Holthoff et al⁴⁴ reported that physical activity made a significant difference in people with AD residing in home-based environments. PA was proven to predominantly be beneficial in cognition, ADL independence, and physical endurance as well as reducing caregiver burden. Jia et al³ stated that PA enhances cognitive function and concluded that PA is both economic and maintainable in people with AD. According to this study, increasing exercise quantity may not be superior in improving cognitive function as compared with low-frequency exercise. However, Lee⁴⁵ supported that there is a relationship between quantification of PA and reduction of dementia risk. PA twice a week, in sessions lasting an hour or longer, contributes to a reduction in dementia risk as does avoiding long periods of inactivity.

Conclusion

People living with dementia are susceptible to the detrimental effects of increased isolation due to the COVID-19 pandemic. Several recent articles have detailed the early evidence of the effects of the COVID-19 pandemic on people with dementia. There has been a decrease in well-being and an increase in the neuropsychiatric symptoms associated with dementia resulting in a substantial increase in the number of antipsychotic medications prescribed for people with dementia.³⁶ The decrease in QOL for people living with dementia can be explained at least partially by an increase in social isolation. Several strategies exist to combat the worsening cognitive function, declining physical functioning, and deteriorating mental health of one of the most vulnerable patient populations. More research is needed on interventions to fight the

loneliness crisis, especially considering the current restrictions on social interactions.

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Aurora Curelaru, DNP, FNP-C, Sarah J Marzolf, DNP-FNP-C, Jean-Claude K. G. Provost, DNP-FNP-BC, Helen H. H. Zeon, DNP-FNP-C, are all nurse practitioners employed by a not-for-profit practice that offers primary care in the home to frail, underserved, and elderly in the Portland, OR, metro area. Dr. Provost can be contacted at jcprovost@housecallproviders.org.

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