



Minnesota State University, Mankato  
Cornerstone: A Collection of Scholarly  
and Creative Works for Minnesota  
State University, Mankato

---

All Graduate Theses, Dissertations, and Other  
Capstone Projects

Graduate Theses, Dissertations, and Other  
Capstone Projects

---

2021

## The Impact of Social Isolation and Cognitive Decline in Older Adults: A Systematic Literature Review

Jody L. Doll-Wilhelm  
*Minnesota State University, Mankato*

Follow this and additional works at: <https://cornerstone.lib.mnsu.edu/etds>



Part of the [Geriatrics Commons](#), and the [Psychiatric and Mental Health Commons](#)

---

### Recommended Citation

Doll-Wilhelm, J. L. (2021). The impact of social isolation and cognitive decline in older adults: A systematic literature review [Master's alternative plan paper, Minnesota State University, Mankato]. Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato. <https://cornerstone.lib.mnsu.edu/etds/1089/>

This APP is brought to you for free and open access by the Graduate Theses, Dissertations, and Other Capstone Projects at Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato. It has been accepted for inclusion in All Graduate Theses, Dissertations, and Other Capstone Projects by an authorized administrator of Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato.

The Impact of Social Isolation and Cognitive Decline in Older Adults:

A Systematic Literature Review

N695- Alternate Plan Paper

Jody L. Doll-Wilhelm

School of Nursing, Minnesota State University- Mankato

Gwen Verchota, PhD, APRN-BC

## Abstract

**Background:** During the COVID-19 pandemic, deaths of Alzheimer's Disease (AD) and dementia patients surged. Increased social isolation and decreased activity levels in older adults have been suggested as contributing factors to accelerating AD and dementia. However, assessment tools to gauge interventions and outcomes of cognitive decline are variable among the literature.

**Objective:** Examine the impact of social engagement versus social isolation, like that experienced with the COVID-19 pandemic, on cognitive decline/dementia in older adults (greater than 60 years of age).

**Method:** A systematic search for studies evaluating the relationship between social isolation and social activity in cognitive function was conducted in health and science databases. Of the 21 articles meeting the review criteria, nine were eligible for inclusion and subjected to further analysis. Sub-analyses examined the discordance between social interaction and social isolation on cognitive function in older adults.

**Results:** Evidence suggests significant correlations exist between having larger social networks and actively engaging in social activities with enhanced cognitive function outcomes. Conversely, social isolation and loneliness can negatively impact an array of cognitive abilities in older adults.

**Conclusion:** A positive correlation between social isolation and cognitive decline exists. Studies show social engagement and cognitively stimulating activities can have a protective and positive influence on the outcomes of both dementia and overall health in older adults. Further research is

needed to measure the aftermath of pandemic-like isolation on cognitive decline in older adults, identify detailed preventative support therapies and interventions utilized during confinement, and create unambiguous classification terms of the topic matter.

*Keywords:* social isolation, cognitive decline, dementia, cognitive function, loneliness, social deprivation, older adults, elderly, seniors, cognitive impairment, social activity, social engagement, social intervention, leisure intervention

### **A Systematic Literature Review**

Loneliness and social isolation can have a negative impact on overall health and increase the risk of dementia in older adults (Center for Disease Control [CDC], 2020). The National Academies of Sciences, Engineering, and Medicine (2020) associate social isolation (an objective lack of social contact with others) and loneliness (the subjective feeling of being isolated) with decreased physical and mental health consequences (increased mortality, depression rates, and cognitive decline). The Alzheimer's Association (n.d.) reported a 16% increase in mortality due to AD and dementia during the COVID-19 pandemic (Alzheimer's Association, 2021). Social engagement and cognitive stimulation are theorized to be among various interventions that can slow the progression and incidence of dementia (Lee et al., 2019). "Early identification of cognitive impairment can help patients and their physicians to enact appropriate advance care planning, identify comorbidities and secondary causes of cognitive dysfunction, and discuss initiation of medical therapy" (Simmons et al., 2011, p. 895). Therefore, early screening and recognition of dementia are paramount, as there is growing evidence that early treatment might positively impact the ability to prevent or postpone dementia (Panegyres et al., 2016).

## Background

With the onset of the COVID-19 pandemic, isolation protocols and social distancing mandates have been imposed upon individuals in all sectors of life. These special protective precautions in the elderly and immune-compromised populations are often limiting and rigidly restrictive, removing many senses of freedoms and pleasures. During this pandemic, these isolation mandates and restrictions resulted in fewer in-person visits for the elderly. According to Lee et al. (2019), social engagement and cognitive stimulation are thought to be among a variety of interventions that can slow the progression and incidence of dementia. Dementia has long been coined an umbrella term for an undetermined disease process that presents with the deterioration of cognitive functions such as impaired ability to remember, think, or make decisions that interfere with completing or accomplishing everyday activities (CDC, n.d.). General cognitive decline is considered an early manifestation of dementia. One of the most common sub-types of dementia is AD, which receives the most attention from researchers, clinicians, and families (National Institute on Aging, n.d.). “Each year, 10 to 15 percent of patients with mild cognitive impairment progress onto Alzheimer’s Disease” (Simmons et al., 2011, p. 895). The Global Deterioration Scale (GDS) was identified as a successful tool used to stage cognitive impairment (CI) in adults who have primary degenerative dementia (Reisberg et al., 1982). Reisberg (1982) developed this scale to give providers a broad overview of the seven stages of cognitive function to assess the progression of the disease.

Numerous risk factors for dementia and AD exist, including age, family history, lower educational levels, smoking apolipoprotein E4 genotype, cardiovascular disease, diabetes, chronic anticholinergic use, and traumatic brain injuries (Simmons et al., 2011). In addition, medication side effects, depression, and vitamin B12 deficiencies have been identified as

treatable health issues which can contribute to cognitive impairment (CDC, 2011). Dementia and AD can negatively affect physical capacities, leading to a loss of independence and contribute to feelings of depression. Active physical lifestyles have a positive impact on mental health, quality of life, and wellness. Theoretically, social distancing directives endorsed by the CDC could conceivably place elderly individuals at high-risk for early-onset or progression of dementia and cognitive symptoms associated with the syndrome. As the degree of dementia and AD progresses, it is essential to find interventions that will promote active lifestyles while protecting the patient's freedoms in the least restrictive way to keep them out of the hospitals or nursing homes.

The CDC reported there are an estimated 5 million adults with dementia (2014) and forecast this number to grow to 14 million by 2060 (CDC, 2020). Lee et al. assert that because advancing age is a known risk factor for dementia, it is invariably considered a syndrome of aging (2019). After the age of 60, the prevalence of dementia magnifies and continues to increase with age. Various reports suggest dementia risk will double for every five years of age after 60 (Hugo & Ganguli, 2014). However, dementia is not a part of normal aging, and there currently is no cure for the intellectual impairments caused by AD or other dementias (CDC, 2011). These soaring numbers predicting the future prevalence of dementia will catalyze encumbrances on emotional, physical, and financial aspects affecting patients, families, and communities (Alzheimer's Association, 2021). Patient, family, and community burdens include organizing continuous care for loved ones with cognitive impairments. The Alzheimer's Association reported that "11 million Americans provide unpaid care to people with Alzheimer's Disease or other dementia's" (Alzheimer's Association, 2021). By the end of 2021, the Alzheimer's Association (n.d.) predicts a \$355 billion cost expenditure in the United States

associated with AD and other dementias. As these numbers rise, the total cost of care for AD and dementias is predicted to exceed \$1.1 trillion by 2050 (Alzheimer's Association, 2021). Due to the growing population of elderly and their accompanying chronic illnesses and diseases such as dementia, it is crucial for healthcare providers to work towards developing strategies that raise awareness surrounding the impact cognitive decline has on impairing those of all backgrounds. It is important to recognize older adults or caregivers may have fewer resources to manage these burdens. Much work exists to find sustainable and practical preventive measures that will mitigate the burdens and economic demands this disease places on families and our medical system and the loss of autonomy and dignity surrounding the cognitive decline in the aging population.

### **Clinical Question**

This literature review aims to explore the clinical question: *In high functioning older adults (greater than 60 years of age) (P), how does social stimulation (I) compare to social isolation (C) impact cognitive decline (O)?* This prognosis style PICO question will examine the consequences of social isolation produced by social distancing (like that of the pandemic) on cognitive function in healthy elderly individuals and the effects of social and cognitive stimulation modalities used to prevent or inhibit the progression of dementia.

### **Method**

#### **Search Strategies**

Academic Search Premier, CINAHL, Cochrane Database of Systematic Reviews, and PubMed were searched to identify studies and reviews written in English and published between January 2010 and January 2020 (see Table 1). Database searches were supplemented with

Google Scholar, and hand searches of the reference sections of relevant reviews and included studies were completed. Search terms included ‘social isolation’, ‘cognitive decline’, ‘dementia’, ‘older adults’, ‘cognitive function’, ‘loneliness’, ‘social exclusion’, ‘social deprivation’, ‘elderly’, ‘seniors’, and ‘cognitive impairment’ (see Table 2). Studies that analyzed populations less than 60 years of age, poor cognitive health, and underlying mental health disorders as a related risk factor to cognitive function were excluded (see Table 3).

The following inclusion criteria were used: full text, references available, English language, peer-reviewed research articles (refer to Table 2). The articles reviewed focused on the impact of social isolation or social activities on the cognitive decline of high functioning older adults (greater than 60 years of age). Excluded studies related to cognitive function which focused on ethnicity or gender differences, types of loneliness, effects of hearing loss or vision, marital status, and mental disorders were removed (refer to Table 3).

The author solely reviewed articles. Wide variations in defining social isolation as well as social activity versus social networks were examined. Care was taken to further scrutinize loneliness and boredom as factors linked to social isolation. Articles were searched for interventions that targeted social isolation to improve or avoid cognitive decline (refer to Table 4). A second reviewer would have allowed for increased scrutiny of article selections, increased subject-matter focus, and lessened author prepossession.

## **Literature Summary Review**

### **Study Characteristics**

The review consisted of population-based longitudinal studies, population surveys, cross-sectional studies, systematic reviews, and meta-analysis studies surrounding cognitive decline or



dementia in older adults. The goal of the review is to synthesize the evidence found in various studies related to factors that impact older adult's cognitive function.

### **Loneliness**

Feelings of loneliness are subjective, and individuals can feel lonely without being alone. Rantzen (2018) once described loneliness as "having lots of people to do things with, but nobody to do nothing with" (para. 3). To better gauge loneliness, Luchetti et al. (2019) utilized a three-item version of the UCLA loneliness scale to measure loneliness in association with cognitive impairment. Luchetti et al. (2019) findings suggest there is a strong correlation between loneliness and cognitive impairment. In the aging population, life transitions such as full-time employment to retirement, loss of social groups due to death, decreased physical abilities or loss of vision, hearing, and fine motor skills are factors that lead to social withdrawal and feelings of loneliness.

Loneliness also has negative impacts on healthcare sectors, as it is well recognized that those who experience loneliness or report unmet socialization time have a higher number of healthcare service visits (Lara et al., 2019). In an 11-year longitudinal study by Luchetti et al. (2020), researchers found that lonely individuals were more prone to engage in health-risk behaviors such as increased screen time, physical inactivity, smoking, and remaining socially isolated. "Lonely individuals tend to suffer from hypertension and other health problems that can harm cognitive health" (Luchetti et al., 2020, p. 799). These high-risk behaviors can become cyclic and are also associated with contributing risk factors that lead to depression, dementia, and cognitive decline. Practitioners need to treat underlying conditions associated with cognitive decline to break these cycles that can negatively impact overall health and well-being.

In a secondary population-based longitudinal study by Lara et al. (2019), data unveiled elderly patients who reported loneliness developed a more precipitous rate of cognitive decline and found that loneliness had a negative impact on multiple domains (composite cognitive score, immediate and delayed recall, verbal fluency, and forward digit span) within their cognitive processes. Their analysis supported the importance of social factors, such as encouraging involvement in social activities and preserving close relationships, reducing the risk of cognitive decline, and eliminating or diminishing feelings of loneliness. Further studies by Kupier et al. (2020) and Luchetti et al. (2020) supported these findings; additionally Donovan et al. (2017) found that loneliness and subclinical depression in older adults increased the rate of cognitive decline by 20% over 12 years. The findings of Donovan et al. (2017), Kupier et al. (2020), and Luchetti et al. (2020) stress the need for more longitudinal studies to analyze and refine the pathological mechanism and pathways that lead to loneliness and depression in later life. By better understanding these processes, novel therapies can reduce the burdens of depression and dementia and improve the quality of life in older adults.

### **Social Isolation**

Establishing a homogeneous definition of social connectedness and social isolation has proven to create challenges by researchers, causing much dispute surrounding which measures evaluate social isolation. Evans et al. (2018) explored social isolation and cognitive function in later life. Their longitudinal study review revealed inconsistent measures of social isolation and social support exist. These authors expressed difficulty in categorizing social isolation or loneliness due to the complexity of social concepts and the nature of social connections. In some studies, participants were considered socially isolated if they were widowed, unmarried, living alone, or had minimal social support. However, Evans et al. (2018) acknowledged that these

factors do not appropriately reflect social isolation in all individuals, and being independent, widowed, or living alone does not necessarily equate to an individual as socially isolated.

Evans et al., (2018); Conroy et al., (2010) identified congruence with similar studies, finding a positive correlation in elders engaging in higher frequency social activities and better global measures of cognitive outcomes (Evans et al., 2018; Conroy et al., 2010). In a study of older adults, DiNapoli et al. (2014) found that perceived loneliness and social isolation were associated with cognitive decline and early development of AD. DiNapoli and associates (2014) found a correlation between depression and social isolation, which further contributed to factors of decreased cognitive function. Each of the studies cited above recognized that more extensive social networks are beneficial to cognitive function. Positive outcomes in reducing cognitive decline were demonstrated in involvement in senior citizen clubs, leisure activities, engaging in neighborhood associations, and attending social outings such as parties, theatres, or card clubs as activities to reduce social isolation and maintain and build relationships (Evans et al., 2018).

## **Depression**

It is critical to screen for depression in the elderly. Mental health is as important as physical health. Depression signs and symptoms can overlap with dementia clinical manifestations (Alzheimer's Association, 2021). These signs and symptoms can include irritability, anxiousness, impaired thinking, sleep disturbances, withdrawal from activities and leisure activities, difficulty concentrating, and impaired thinking (Alzheimer's Association, 2021). A significant correlation exists between depression, loneliness, and dementia. A systematic review by Kuiper et al. (2020) examining the impact of social network size, loneliness, and cognitive performance suggested using dual-purpose strategies to simultaneously

decrease cognitive impairment and depression; implying improving depression can enhance the effectiveness of slowing cognitive decline.

Conversely, assessing and addressing caregiver fatigue and burnout is essential as well. "Families caring for those with dementia face significant emotional, financial, and physical burdens as well" (Alzheimer's Association, 2021). Often, caregiver stress goes untreated and unrecognized, adding to the patient and family burdens associated with dementia. In a literature review focusing on the effects of social isolation caused by COVID-19, Sepúlveda-Loyola et al., (2020) discovered social isolation was associated with increased depression, poor mental health, increased anxiety, reduced sleep quality, and decreased quality of life. Depression screening tools such as the PHQ-2, PHQ-9, and the Geriatric Depression scale are valuable adjuncts for patients and families (Tsoi et al., 2015).

### **Social Intervention**

Research has shown that increased activity levels benefit mental health, prevent muscle atrophy, increase muscle tone which increases balance and reduce the risk of falls, and lowers cardiovascular risk and other chronic illnesses associated with advanced aging (CDC, 2020). In a cross-sectional study by Merchant et al. (2020), physical functioning was assessed in older adults by measuring gait speed and frailty. Gait speed was associated with greater mobility and independence, allowing older adults more freedom to ambulate in the community and engage with others (Merchant et al., 2020). Evidence from the study by Merchant et al., (2020) further supports the benefits of active memberships in fitness programs to reduce social isolation and loneliness and improve physical health and mental well-being. Additional recommended interventions for the elderly such as engaging in exercise groups, participating in social meetings, walking, dancing, gardening, group activities, or attending outings are strategies to

improve physical exercise with cognitive stimulation in a social setting to positively impact cognitive processes and slow cognitive decline (Kelly et al., 2017; Sepulveda-Loyola et al., 2020;). "While robust social restrictions are necessary to prevent the spread of COVID-19, it is of critical importance to bear in mind that social distancing should not equate to social disconnection" (Hwang et al., pg. 1, 2020). There needs to be more targeted approaches to prevention strategies during isolation mandates. Increasing social networks by enrolling patients in senior clubs, group exercise programs, increasing access to virtual social hours among social groups, networks, and family support systems are excellent examples of preventative interventions that can reduce cognitive impairment in older adults.

### **Screening Tools**

Implementing preventative screening to assess those at high risk or identifying risk factors that increase the risk of early cognitive decline is imperative for change. Dementia, cognitive function, cognitive impairment, and cognitive decline were indicators assessed utilizing highly sensitive scales such as Mini-Mental Examinations (MME), Abbreviated Mental Test (AMT) scores, Informant Questionnaire for Cognitive Decline (IQCODE), Hospital Anxiety and Depression subscales (HADS), and Lubben Social Network Scale (LSNS) (refer to Table 4).

Tsoi et al. (2015) completed a systematic review and meta-analysis comparing the most common screening tools used to increase the detection of cognitive impairment in older adults. These exams included the Mini-Mental State Exam (MMSE), General Practitioner Assessment of Cognition (GPAC), Mini-Cog, Addenbrooke's Cognitive Examination–Revised (ACE-R), and the Montreal Cognitive Assessment. Their results revealed the Mini-Cog test and the ACE-R to be the superior screening tests for dementia, and the Montreal Cognitive Assessment exhibited the best tool for mild cognitive impairment. Experts suggest performing serial screening and

assessment exams biannually on patients who exhibit cognitive impairment but do not meet the criteria for dementia (Panegyres et al., 2016). Therefore, the precise length of time for repeating testing in individuals with positive biomarkers is yet to be determined. Panegyres et al. recommend serial screening to monitor the progression of disease and treatment intervention outcomes for purposes of tracking the trajectory within the disease (2016).

## **Discussion**

Considerable research and evidence exists correlating the ability to delay or even partially reverse cognitive impairment and decline (exhibited in dementia and early AD) with cognitive training exercises. “The brain has the potential to reorganize itself and experience functional improvement after damage” (Panegyres et al., pg. 10, 2016). Cognitive training tasks such as puzzles, crocheting, painting, or other troubleshooting activities aid in focus, memory recall, and problem-solving abilities. Additionally, encouraging activities/hobbies and engaging in social activities to increase mental stimulation are practical solutions to build cognitive reserve while decreasing cognitive decline (Kelly et al., 2017). Finally, improving cognitive recall by finding engaging activities, allowing storytelling, and asking for advice can bring a sense of purpose and accomplishment and increase satisfaction, morale, and sense of value to the elderly (Kelly et al., 2017; Sepúlveda-Loyola et al., 2020). Having a sense of purpose and value increases self-confidence and boosts morale in elders, therefore decreasing the emotional tolls that declining cognition can have on emotional well-being.

## **Gaps in Literature**

Wide variations in defining social isolation and social activity versus social networks appeared in the literature, making it difficult to integrate and unify data findings. Kelly et al.

(2017) encountered discrepancies and unclear terminologies related to social factors. They found a considerable lack of homogeneity across studies, as well as a lack of clarity and consistency among researchers revolving around unclear definitions of social networks, activity, and support, making it challenging to examine the effects of social relationships on cognition in older adults.

No significant supportive longitudinal studies have been successfully completed that use supporting validated scales to assess loneliness. Studies have included various tools and scales to analyze loneliness and boredom as factors linked to social isolation; however, each has issues with sensitivity and/or specificity of the scale. Currently there is no 'gold standard' for evaluating loneliness. The sense of loneliness is subjective, definitions vary, and the limited scales used to measure loneliness are below average to measure large-scale social surveys (Conroy et al., 2010). Furthermore, in RCT's many researchers identify low recruitment and adherence rates due to progression of other chronic illnesses, refusal without cause, adverse events, or loss of interest (Xu et al., 2020).

### **Implications for Future Practice**

#### **Recommendations for Clinical Practice**

The results of this literature suggest directs practitioners re-examine the detrimental effects of social isolation mandates on elderly populations. "Cognitive impairment needs to be addressed with a comprehensive and coordinated approach" (CDC, n.d., pg. 3). Older adults are at higher risk of having negative consequences for cognitive decline. Therefore, the urgency to identify and engage in appropriate activities for seniors which will provide mental stimulation and decrease the feelings of isolation are imperative for their overall health and well-being. Healthcare workers should focus on the physical, emotional, and financial burdens bestowed on

patients, caregivers, and healthcare agencies to make a positive, sustainable, and affordable change in practice outcomes.

### **Recommendations for Research**

Additional longitudinal studies to delineate and study specific interventions to decrease the cognitive decline in older adults are needed. The lack of clear definitions and measures of terms needs to be addressed to avoid the ambiguity of the subject matter. There is a wide variation of terms that are not inherently associated with social isolation, including loneliness and depression. A person can feel lonely or be depressed even if they have a robust social network. There remain needs for consistent tools to measure social isolation and social support within the complexity of social concepts and the variation of social bonds.

### **Recommendations for Education**

Caregivers, patients, and families have an important role in protecting those at risk for cognitive decline due to social isolation. We can begin by providing awareness of preventive measures that reduce cognitive decline and dementia in older adults. Offering healthcare education that focuses on understanding disease processes associated with cognitive function, the stages of cognitive decline, and the protective and preventive measures in treating dementia and AD is imperative to improve older adults' mental and physical health.

### **Recommendations for Policy**

Suggestions for policy recommendations include providing a database of available evidence-based interventions to professionals and patients for reducing the risk of dementia (WHO, n.d.) and ending social isolation by ensuring adequate access to rapid testing for all residents, staff, and visitors (CDC, n.d.). Policymakers should be encouraged to support research



to increase the knowledge of cognitive impairment and find ways to create age-friendly environments which will improve living conditions for those patients and families affected by impaired cognition with aging (CDC, n.d.).

### **Conclusion**

Social isolation is associated with adverse outcomes, including decreased cognitive function, rising rates of dementia and depression, and increased mortality. As the pandemic continues, additional challenges and barriers affecting the health and well-being of our elderly population unfold. It is important to continue to gather data on the effects of social isolation in order to find further ways to mitigate and prevent the negative outcomes associated with social isolation during a pandemic. Further research and reviews are needed to measure the aftermath of pandemic-like isolation on cognitive decline in older adults and specific evidence-based preventive support therapies and interventions that can be utilized during confinement.

### References:

Alzheimer's Association. (2021, Mar 21) Alzheimer's disease facts and figures.

<https://doi.org/10.1002/alz.12328>

Centers for Disease Control and Prevention [CDC]. (2011, February). Cognitive Impairment: A Call for Action, Now!

[https://www.cdc.gov/aging/pdf/cognitive\\_impairment/cogimp\\_poilicy\\_final.pdf](https://www.cdc.gov/aging/pdf/cognitive_impairment/cogimp_poilicy_final.pdf).

Centers for Disease Control and Prevention [CDC]. (n.d.). *Coronavirus (COVID-19): Tips for*

*Dementia Caregivers*. Retrieved from [https://www.alz.org/help-support/caregiving/coronavirus-\(covid-19\)-tips-for-dementia-care](https://www.alz.org/help-support/caregiving/coronavirus-(covid-19)-tips-for-dementia-care)

Centers for Disease Control and Prevention [CDC]. April 5, 2019. *What Is Dementia?* Retrieved

from <https://www.cdc.gov/aging/dementia/index.html>

Centers for Disease Control and Prevention [CDC]. (2020, November 04). *Loneliness and Social*

*Isolation Linked to Serious Health Conditions*. Retrieved from

<https://www.cdc.gov/aging/publications/features/lonely-older-adults.html>

Conroy, R., Golden, J., Jeffares, I., O'Neill, D., & McGee, H. (2010). Boredom-proneness,

loneliness, social engagement and depression and their association with cognitive function

in older people: A population study. *Psychology, Health & Medicine*, 15(4), 463–473.

<https://doi-org.ezproxy.mnsu.edu/10.1080/13548506.2010.487103>

DiNapoli EA, Wu B, Scogin F. Social isolation and cognitive function in Appalachian older adults. *Res Aging*. 2014 Mar; 36 (2):161-79. doi: 10.1177/0164027512470704. Epub 2013 Jan 4. PMID: 25650688.

Donovan NJ, Wu Q, Rentz DM, Sperling RA, Marshall GA, Glymour MM. Loneliness, depression and cognitive function in older U.S. adults. *Int J Geriatr Psychiatry*. 2017 May;32(5):564-573. doi: 10.1002/gps.4495. Epub 2016 May 9. PMID: 27162047; PMCID: PMC5102822.

Evans IEM, Martyr A, Collins R, Brayne C, Clare L. Social Isolation and Cognitive Function in Later Life: A Systematic Review and Meta-Analysis. *J Alzheimers Dis*. 2019;70(s1):S119-S144. doi: 10.3233/JAD-180501

Griffin, S. C., Mezuk, B., Williams, A. B., Perrin, P. B., & Rybarczyk, B. D. (2020). Isolation, Not Loneliness or Cynical Hostility, Predicts Cognitive Decline in Older Americans. *Journal of aging and health*. <https://www.ncbi.nlm.nih.gov/pubmed/30289338>.

Hugo, J., & Ganguli, M. (2014). Dementia and cognitive impairment: epidemiology, diagnosis, and treatment. *Clinics in geriatric medicine*, 30(3), 421–442.  
<https://doi.org/10.1016/j.cger.2014.04.001>

Hwang, T. J., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. *International psychogeriatrics*, 32(10), 1217–1220. <https://doi.org/10.1017/S1041610220000988>

- Kelly, D. (2017). The impact of social activities, social networks, social support and social relationships on the cognitive functioning of healthy older adults: a systematic review. *Systematic Reviews*, 6(1), 259–259. <https://doi.org/10.1186/s13643-017-0632-2>
- Kuiper, J. S., Smidt, N., Zuidema, S. U., Comijs, H. C., Oude Voshaar, R. C., & Zuidersma, M. (2020). A longitudinal study of the impact of social network size and loneliness on cognitive performance in depressed older adults. *Aging & Mental Health*, 24(6), 889–897. <https://doi-org.ezproxy.mnsu.edu/10.1080/13607863.2019.157101>
- Lara E, Caballero FF, Rico-Uribe LA, Olaya B, Haro JM, Ayuso-Mateos JL, Miret M. Are loneliness and social isolation associated with cognitive decline? *Int J Geriatr Psychiatry*. 2019 Nov;34(11):1613-1622. doi: 10.1002/gps.5174. Epub 2019 Jul 25. PMID: 31304639.
- Lee, H., Kim, D., Lee, W., Kim, H. Y., & Kim, Y. (2019). Preventive approach for overcoming dementia. *Archives of Pharmacal Research*, 42(8), 647-657. doi:10.1007/s12272-019-01168-3
- Luchetti, M., Terracciano, A., Aschwanden, D., Lee, J. H., Stephan, Y., & Sutin, A. R. (2020). Loneliness is associated with risk of cognitive impairment in the Survey of Health, Ageing and Retirement in Europe. *International Journal of Geriatric Psychiatry*, 35(7), 794–801. <https://doi-org.ezproxy.mnsu.edu/10.1002/gps.5304>
- Merchant RA, Liu SG, Lim JY, Fu X, Chan YH. Factors associated with social isolation in community-dwelling older adults: a cross-sectional study. *Qual Life Res*. 2020 Sep;29(9):2375-2381. doi: 10.1007/s11136-020-02493-7. Epub 2020 Apr 6. PMID: 32253669

- Panegyres, P. K., Berry, R., & Burchell, J. (2016). Early Dementia Screening. *Diagnostics* (Basel, Switzerland), 6(1), 6. <https://doi.org/10.3390/diagnostics6010006>
- Rantzen, E. (2018, January 24). 'Nobody to do nothing with.' Combating loneliness. Social Care Institute for Excellence (SCIE). <https://www.scie.org.uk/news/opinions/esther-rantzen-silverline>.
- Reisberg, B., Ferris, S. H., de Leon, M. J., & Crook, T. (1982). The Global Deterioration Scale for assessment of primary degenerative dementia. *The American journal of psychiatry*, 139(9), 1136–1139. <https://doi.org/10.1176/ajp.139.9.1136>
- Sepúlveda-Loyola, W., Rodríguez-Sánchez, I., Pérez-Rodríguez, P., Ganz, F., Torralba, R., Oliveira, D., & Rodríguez-Mañas, L. (2020, June 10). 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*. <https://pubmed.ncbi.nlm.nih.gov/33155618/>.
- Simmons, B. B., Hartmann, B., & DeJoseph, D. (2011, October 15). Evaluation of Suspected Dementia. *American Family Physician*. <https://www.aafp.org/afp/2011/1015/p895.html>.
- Tsoi, K., Chan, J. Y. C., Hirai, H. W., Wong, S., & Kwok, T. (2015). [P3-298]: COGNITIVE TESTS TO DETECT MILD COGNITIVE IMPAIRMENT: A SYSTEMATIC REVIEW AND META-ANALYSIS. *JAMA Internal Medicine*, 175(9), 1450–1458. <https://doi.org/10.1016/j.jalz.2017.06.1512>

U.S. Department of Health and Human Services. What Is Dementia? Symptoms, Types, and Diagnosis. National Institute on Aging. <https://www.nia.nih.gov/health/what-dementia-symptoms-types-and-diagnosis>.

World Health Organization [WHO]. (n.d.). *Risk reduction of cognitive decline and dementia: WHO guidelines, Executive Summary*. Retrieved from [https://www.who.int/mental\\_health/neurology/dementia/english\\_forward\\_executive\\_summary\\_dementia\\_guidelines.pdf](https://www.who.int/mental_health/neurology/dementia/english_forward_executive_summary_dementia_guidelines.pdf)

Xu, Z., Sun, W., Zhang, D., & Wong, S. Y. (2020). Recruitment and adherence of randomized controlled trials for mild cognitive impairment: A systematic review and meta-analysis. *International journal of geriatric psychiatry*, 35(10), 1141–1150. <https://doi.org/10.1002/gps.5336>

## Appendix

**Table 1**

*Database Search Description*

<b>Database (or Search Engine)</b>	<b>Restrictions Added to Search</b>	<b>Dates Included in Database</b>	<b>General Subjects Covered by Database</b>
1. Academic Search Premier	Full Text; References Available; English Language; Peer Reviewed: Research Article;	2010-2020	Academic Search Premier is a multi-disciplinary full text database containing full text. This scholarly collection offers information in nearly every area of academic study including: computer sciences, engineering, physics, chemistry, language and linguistics, arts & literature, medical sciences, ethnic studies, and many more.
2. CINAHL	Full Text; References Available; English Language; Peer Reviewed: Research Article;	2010-2020	CINAHL with Full Text covers nursing, biomedicine, health sciences librarianship, alternative/complementary medicine, consumer health and 17 allied health disciplines. In addition, this database offers access to health care books, nursing dissertations, selected conference proceedings, standards of practice, educational software, audiovisuals and book chapters.
3. Cochrane Database of Systematic Reviews	Full Text; References Available; English Language; Peer Reviewed: Research Article	2010-2020	Cochrane Database of Systematic Reviews contains full text articles, as well as protocols focusing on the effects of healthcare. The reviews are highly structured and systematic, with evidence included or excluded on the basis of

Database (or Search Engine)	Restrictions Added to Search	Dates Included in Database	General Subjects Covered by Database
			explicit quality criteria, to minimize bias. Data is evidence-based medicine and is often combined statistically (with meta-analysis) to increase the power of the findings of numerous studies, each too small to produce reliable results individually.
4. PubMed	Full Text; References Available; English Language; Peer Reviewed; Research Article;	2010 through 2020	PubMed comprises citations for biomedical literature from MEDLINE, life science journals, and online books. <i>PubMed</i> citations and abstracts include the fields of biomedicine and health, covering portions of the life sciences, behavioral sciences, chemical sciences, and bioengineering

**Table 2***Data Abstraction Process*

Date of Search	Key Words	Results in CINAHL	Results in PubMed	Results in COCHRANE	Results in Academic Search Premier
10/20/20	“Dementia”	658	106,215	73	1,821
	“Social Isolation”	359	15,080	10	948



Date of Search	Key Words	Results in CINAHL	Results in PubMed	Results in COCHRANE	Results in Academic Search Premier
10/20/20	“Dementia”	658	106,215	73	1,821
	“Cognitive Decline”	88	55,575	24	551
10/24/20	“Social Isolation” AND “Cognitive Decline”	3	329	0	4
	“Dementia” AND “Social Isolation”	8	411	<b>1</b>	12
	“Dementia” AND “Social Isolation” AND “Cognitive Decline”	1	79 ( <b>12</b> )	0	<b>1</b>
11/14/20	“Social Isolation” AND “Older Adults” AND “Cognitive Function”	240 ( <b>2</b> )	332 ( <b>10</b> )	2	6
	“Social Isolation” or “Loneliness” or “Social Exclusion” or “Social Deprivation” AND “Older Adults” or “Elderly” or “Seniors” AND “Cognitive Function” or “Cognitive Functioning” or “Cognitive Impairment”	78 ( <b>3</b> )	0	0	152 ( <b>17</b> )

\***BOLD** = articles reviewed for match with systematic review inclusion criteria (parentheses indicate those articles meeting inclusion criteria)

**Table 3**

*Characteristics of Literature Included and Excluded*

Reference	Included or Excluded and Document	Rationale
Cahill, S., & Diaz-Ponce, A. M. (2011). "I hate having nobody here. I'd like to know where they all are": Can qualitative research detect differences in quality of life among nursing home residents with different levels of cognitive impairment? <i>Aging &amp; Mental Health</i> , 15(5), 562–572. doi-org.ezproxy.mnsu.edu/10.1080/13607863.2010.551342	Excluded	Focus is more on Cognitive impairment <i>levels</i> and QOL with accompanying themes of social contact, attachment, pleasurable activities, and affect
Canady, V. A. (2015). Study links loneliness with cognitive decline in older adults. <i>Mental Health Weekly</i> , 25(29), 3–4. doi-org.ezproxy.mnsu.edu/10.1002/mhw.30275	Excluded	Article review of cognitive impairment in loneliness linked to damaging older adults cognitive impairment; stresses need for PCP to pay close attention to peoples social connections.
Conroy, R., Golden, J., Jeffares, I., O'Neill, D., & McGee, H. (2010). Boredom-proneness, loneliness, social engagement and depression and their association with cognitive function in older people: A population study. <i>Psychology, Health &amp; Medicine</i> , 15(4), 463–473. doi-org.ezproxy.mnsu.edu/10.1080/13548506.2010.487103	Included	Examines the relationship of cognitive impairment, assessed using the Abbreviated Mental Test, with loneliness, boredom-proneness, social relations, and depression in older adults. Used cluster variables in a cross-sectional study.
De Sousa P, Sellwood W, Eldridge A, Bentall RP. The role of social isolation and social cognition in thought disorder. <i>Psychiatry Res</i> . 2018 Nov;269:56-63. doi: 10.1016/j.psychres.2018.08.048. Epub 2018 Aug 16. PMID: 30145302.	Excluded	Focus is more on thought disorders associated with social isolation in elderly patients with psychosis
DiNapoli EA, Wu B, Scogin F. Social isolation and cognitive function in Appalachian older adults. <i>Res Aging</i> . 2014 Mar;36(2):161-79. doi: 10.1177/0164027512470704. Epub 2013 Jan 4. PMID: 25650688.	Included	Focus is on the association of social isolation and cognitive function. Cross sectional analysis of 267 study participants. Looked for interventions to target social isolation
Donovan NJ, Wu Q, Rentz DM, Sperling RA, Marshall GA, Glymour MM. Loneliness, depression and cognitive function in older U.S. adults. <i>Int J Geriatr Psychiatry</i> . 2017 May;32(5):564-573. doi: 10.1002/gps.4495. Epub 2016 May 9. PMID: 27162047; PMCID: PMC5102822.	Included	Study repeats measures analysis to examine the reciprocal relations of loneliness & depression on cognitive function. Loneliness & depression are related risk factors to cognitive function. However, findings show loneliness may have independent effects on cognitive decline (separate from depression).
Drageset, J., Espehaug, B., & Kirkevold, M. (2012). The impact of depression and sense of coherence on emotional and social loneliness among nursing home residents without cognitive impairment - a questionnaire survey. <i>Journal</i>	Excluded	Looks more at loneliness and depression in the socially isolated; less on the effects of isolation to cognitive function

<i>of Clinical Nursing (John Wiley &amp; Sons, Inc.), 21(7–8), 965–974. doi-org.ezproxy.mnsu.edu/10.1111/j.1365-2702.2011.03932.x</i>		
Evans IEM, Llewellyn DJ, Matthews FE, Woods RT, Brayne C, Clare L; CFAS-Wales research team. Living alone and cognitive function in later life. <i>Arch Gerontol Geriatr.</i> 2019 Mar-Apr;81:222-233. doi: 10.1016/j.archger.2018.12.014. Epub 2018 Dec 31. PMID: 30654180.	Excluded	Study examines if elderly people who lived alone are at higher risk for cognitive decline. Does not assess social groups or social isolation, just factors in living alone.
Evans IEM, Martyr A, Collins R, Brayne C, Clare L. Social Isolation and Cognitive Function in Later Life: A Systematic Review and Meta-Analysis. <i>J Alzheimers Dis.</i> 2019;70(s1):S119-S144. doi: 10.3233/JAD-180501.	Included	Systematic review and meta-analysis on the association of social isolation and cognitive function in older adults revealing wide variations in approaches to measure social activity and social networks amongst studies which may contribute to inconsistencies in reported findings. Establish baseline differences and similarities between social activity & social networks for defining purposes.
Hajek A, Riedel-Heller SG, König HH. Perceived social isolation and cognitive functioning. Longitudinal findings based on the German Ageing Survey. <i>Int J Geriatr Psychiatry.</i> 2020 Mar;35(3):276-281. doi: 10.1002/gps.5243. Epub 2019 Dec 21. PMID: 31755129.	Excluded	Included in their study were patients age 40 years and older, I was more specifically looking for >65 yo
Kelly, D. (2017). The impact of social activities, social networks, social support and social relationships on the cognitive functioning of healthy older adults: a systematic review. <i>Systematic Reviews</i> , 6(1), 259–259. doi.org/10.1186/s13643-017-0632-2	Included	Impacts of social activities on cognitive functioning in older adults. Comprehensive literature reviews of RCTs, observational and twin studies on cognitive functioning and social isolation.
Kuiper, J. S., Smidt, N., Zuidema, S. U., Comijs, H. C., Oude Voshaar, R. C., & Zuidersma, M. (2020). A longitudinal study of the impact of social network size and loneliness on cognitive performance in depressed older adults. <i>Ageing &amp; Mental Health</i> , 24(6), 889–897. doi-org.ezproxy.mnsu.edu/10.1080/13607863.2019.157101	Included	Longitudinal study which examines the association of social networks (stress buffering abilities, cognitive-reserve theory, & positive healthy behaviors) in relation to cognitive decline. Used the Close Person Inventory, De Jong Gierveld loneliness scale, & 3 neuropsychological tests to evaluate over a 2 yr. period.
Lam, C. L. M., Yu, J., & Lee, T. M. C. (2017). Perceived loneliness and general cognitive status in community-dwelling older adults: the moderating influence of depression. <i>Ageing, Neuropsychology &amp; Cognition</i> , 24(5), 471–480. doi-org.ezproxy.mnsu.edu/10.1080/13825585.2016.1226246	Excluded	Examines perceived loneliness and depressed mood on married vs non-married participants and their cognitive status. N=100 (small),
Lara E, Caballero FF, Rico-Urbe LA, Olaya B, Haro JM, Ayuso-Mateos JL, Miret M. Are loneliness and social isolation associated with cognitive decline? <i>Int J Geriatr Psychiatry.</i> 2019 Nov;34(11):1613-1622. doi: 10.1002/gps.5174. Epub 2019 Jul 25. PMID: 31304639.	Included	Assesses loneliness & social isolation on cognition over a 3yr. follow-up. Develops interventions which might contribute to cognitive decline prevention and risk reduction

Luchetti, M., Terracciano, A., Aschwanden, D., Lee, J. H., Stephan, Y., & Sutin, A. R. (2020). Loneliness is associated with risk of cognitive impairment in the Survey of Health, Ageing and Retirement in Europe. <i>International Journal of Geriatric Psychiatry</i> , 35(7), 794–801. doi-org.ezproxy.mnsu.edu/10.1002/gps.5304	Included	Longitudinal study over 11 yrs measuring loneliness, social isolation, and depression as risk factors for cognitive impairment.
Merchant RA, Liu SG, Lim JY, Fu X, Chan YH. Factors associated with social isolation in community-dwelling older adults: a cross-sectional study. <i>Qual Life Res</i> . 2020 Sep;29(9):2375-2381. doi: 10.1007/s11136-020-02493-7. Epub 2020 Apr 6. PMID: 32253669.	Included	Includes an assessment of social isolation on frailty, cognition, and depression on older adults in a cross-sectional study.
Nilsson, I., Luborsky, M., Rosenberg, L., Sandberg, L., Boström, A.-M., & Borell, L. (2018). Perpetuating harms from isolation among older adults with cognitive impairment: observed discrepancies in homecare service documentation, assessment and approval practices. <i>BMC Health Services Research</i> , 18(1), 1–9. doi-org.ezproxy.mnsu.edu/10.1186/s12913-018-3616-6	Excluded	Focuses on documentation discrepancies among caregivers which inhibit older adults at risk for social isolation to receive services that would meet their social needs.
Rezaeipandari, H., Ravaei, J., Bahrevar, V., Mirrezaei, S., & Morowatisharifabad, M. A. (2020). Social participation and loneliness among older adults in Yazd, Iran. <i>Health &amp; Social Care in the Community</i> , 28(6), 2076–2085. doi-org.ezproxy.mnsu.edu/10.1111/hsc.13018	Excluded	Examines factors that lead older adults to social isolation, such as transportation related issues, diseases & health problems, or personal or family responsibilities.
Schnittger, R. B., Wherton, J., Prendergast, D., & Lawlor, B. (2012). Risk factors and mediating pathways of loneliness and social support in community-dwelling older adults. <i>Aging &amp; Mental Health</i> , 16(3), 335–346. doi-org.ezproxy.mnsu.edu/10.1080/13607863.2011.629092	Excluded	Focuses on the different types of loneliness (emotional, social) in older adults and their mental health.
Sepúlveda-Loyola, W., Rodríguez-Sánchez, I., Pérez-Rodríguez, P., Ganz, F., Torralba, R., Oliveira, D., & Rodríguez-Mañas, L. (2020). Impact of Social Isolation Due to COVID-19 on Health in Older People: Mental and Physical Effects and Recommendations. <i>The Journal of Nutrition, Health &amp; Aging</i> , 24(9), 938–947. doi.org/10.1007/s12603-020-1469-2	Included	Reviewed the impact of social isolation on the physical and mental health of older adults during the COVID-19 pandemic.
Wright, S. C. V. A., Neville, S., Forsyth, V., White, L., & Napier, S. (2017). Integrative review of older adult loneliness and social isolation in Aotearoa/New Zealand. <i>Australasian Journal on Ageing</i> , 36(2), 114–123. doi-org.ezproxy.mnsu.edu/10.1111/ajag.12379	Excluded	Examines the difference of social isolation on older adults by gender and ethnicity. Integrative review of quantitative & qualitative research articles of small sample size only reviewing those in New Zealand. Focused more on loneliness. Poor LOE

Yu B, Steptoe A, Chen Y, Jia X. Social isolation, rather than loneliness, is associated with cognitive decline in older adults: The China Health and Retirement Longitudinal Study. <i>Psychol Med.</i> 2020 Apr 27;1-8. doi: 10.1017/S0033291720001014. Epub ahead of print. PMID: 32338228.	Excluded	Observational study of older adults >50yo to make associations. Study lacks strong tests to examine cognitive impairment
---	----------	--

**Table 4***Literature Review Table of All Studies Included*

Citation	Study Purpose	Pop (N)/ Sample Size (n) /Setting(s)	Design/ Level of Evidence	Variables/ Instruments	Intervention	Findings	Implications
Conroy, R., Golden, J., Jeffares, I., O'Neill, D., & McGee, H. (2010).	Exams the relationship of cognitive impairment to loneliness, boredom-proneness, social relations, & depression	N=802	Population Survey of randomly selected older adults  LOE: II	Abbreviated Mental Test, (AMT) Score; Mini Mental Exam (MME); Hospital Anxiety & Depression Subscale (HADS)	N/A	Cluster variables: social support cluster, social activity cluster, & cognitive function clusters evaluated and examined outcomes	Boredom-proneness is a contributing factor to cognitive function, not just social isolation
DiNapoli EA, Wu B, & Scogin F. (2014).	Focuses on the association of social isolation and cognitive function.	N= 267	Design: Cross-Sectional analysis  LOE: II	Lubben Social Network Scale (LSNS);  CVLT-II; Rey-O; COWAT; GDS	N/A	Social isolation is associated with overall cognitive functioning and across a varied cognitive domain	Looked for interventions to target social isolation
Donovan NJ, Wu Q, Rentz DM, Sperling RA, Marshall GA, & Glymour MM. (2017).	To examine reciprocal relations of loneliness and cognitive function in older adults	N=8382	Design: Longitudinal data analysis  LOE: III	Center for Epidemiologic Studies Depression Scale (CES-D); Informant Questionnaire for	N/A	Findings show loneliness may have independent effects on cognitive decline	Important to assess and screen for modifiable risk factors like depression and loneliness (isolation) and treat each accordingly to slow cognitive decline

Citation	Study Purpose	Pop (N)/ Sample Size (n) /Setting(s)	Design/ Level of Evidence	Variables/ Instruments	Intervention	Findings	Implications
				Cognitive Decline (IQCODE)		(separate from depression).	
Evans IEM, Martyr A, Collins R, Brayne C, & Clare L. (2019).	Find associations between social isolation and cognitive decline	N=65	Design: Systematic review and meta- analysis  LOE: II	Quality of articles assess by single reviewer based on Critical Appraisal Skills Programmer checklist	N/A	Demonstrated that larger social networks and engagement in social activity are associated with better outcomes	Establish baseline differences and similarities between social activity & social networks: future studies to standardize measures would be beneficial.
Kelly, D. (2017).	Evaluate the association between different aspects of social relationships; specifically, social activity, social networks, and social support on cognitive functioning in older adults.	N=39	Design: Systematic Review  LOE: I	PRISMA guidelines	N/A	Lack of defined social relationships in study reviews making it difficult to achieve homogeneity across studies, future research needed.	There is a necessity to define terms such as loneliness vs lack of social support; social relationships, cognitive definitions and measures have different impacts on cognitive decline
Kuiper, J. S., Smidt, N., Zuidema, S. U., Comijs, H. C., Oude Voshaar, R. C., & Zuidersma, M. (2020).	To examine the association of social network size and loneliness with cognitive performance and decline in older adults	N= 378	Design: Longitudinal Study  LOE: III	Netherlands Study of Depression in Older Persons (NESDO); Mini Mental Exam (MME);	N/A	Social network size and loneliness do not predict cognitive decline in depressed older adults	Depression may exert its impact on social decline through multiple pathways that compete with loneliness and social network size. Therefore, interventions aiming loneliness and social network size might be effective in reducing cognitive decline while treating depression
Lara E, Caballero FF, Rico-Uribe LA, Olaya B, Haro JM, Ayuso- Mateos JL, & Miret M. (2019).	Examine the association of loneliness and social isolation on cognition on older adults	N=1691	Design: Population- Based Longitudinal Study  LOE: III	UCLA loneliness Scale questionnaire,	N/A	Social determinants as potential risk factor for cognitive decline	Development of interventions (ex. Screenings for social isolation) which include improving social participation and maintaining emotional support groups/relationships would reduce risk for cognitive decline

Citation	Study Purpose	Pop (N)/ Sample Size (n) /Setting(s)	Design/ Level of Evidence	Variables/ Instruments	Intervention	Findings	Implications
Luchetti, M., Terracciano, A., Aschwanden, D., Lee, J. H., Stephan, Y., & Sutin, A. R. (2020).	To test whether loneliness is associated with the risk of cognitive impairment in older adults	N= 14,114	Design: Longitudinal Study  LOE: III	UCLA loneliness scale; Center for Epidemiological Studies Depression scale; EURO-D scale	N/A	Loneliness may increase the risk of cognitive impairment in several ways. Lonely individuals engage in health-risk behaviors such as smoking, physical inactivity, which can lead to HTN, & other health problems that increase risk for cognitive decline	Early detection of loneliness to reduce the increased health-risk activities associated with loneliness to prevent sever impairment or dementia.
Merchant RA, Liu SG, Lim JY, Fu X, & Chan YH. (2020).	Determine the prevalence of social isolation & its association with gait speed, frailty, cognition, depression in older adults	N=202	Design: Cross- Sectional Study  LOE: IV	LSNS-6, GDS, FRAIL scale, EuorQol EQ-5D-5L questionnaire, MME,	N/A	Slow gait speed is strongly associated with social isolation due to ambulation restrictions and decreasing their opportunity to engage in social connections, resulting in loneliness and social isolations	Interventions to reduce social isolation and loneliness include senior clubs, fitness program memberships
Sepúlveda-Loyola, W., Rodríguez-Sánchez, I., Pérez-Rodríguez, P., Ganz, F., Torralba, R., Oliveira, D., & Rodríguez-Mañas, L. (2020).	Reviewed the impact of social isolation on the physical and mental health of older adults during the COVID-19 pandemic.	N=20,069	Design: Narrative Review  LOE: IV	Quality of articles assess by three reviewers	N/A	Negative impacts are associated with mental and physical health in older adults during social distancing during COVID-19.	Interventions and recommendations for individuals, healthcare workers, and health authorities to improve or maintain mental and physical health in older adults while safely practicing social distancing during pandemic like events