# Evidence Search Service Results of your search request

## Impact of Covid 19 on people with dementia and memory/cognitive impairment

**ID of request:** 27929  
**Date of request:** 26th February, 2021  
**Date of completion:** 26th February, 2021

If you would like to request any articles or any further help, please contact:  Paul Lee at [paul.lee@slam.nhs.uk](mailto:paul.lee@slam.nhs.uk)

Please acknowledge this work in any resulting paper or presentation as: Evidence search: Impact of Covid 19 on people with dementia and memory/cognitive impairment. Paul Lee. (26th February, 2021). LONDON, UK: Reay House Library and Knowledge Service.

**Sources searched**  
MEDLINE (29)

**Date range used** (5 years, 10 years): 2020-2021   
**Limits used** (gender, article/study type, etc.): Peer reviewed papers in English   
**Search terms and notes** (full search strategy for database searches below):

(cognitive or memory) adj2 (impair\* or problem\* or dysfunction\* or decline or loss\* or disorder\*)  
dementia or Alzheimer\*

Covid\* OR SARS-COV\* OR coronavir\*

And available thesaurus terms (please see search history for details).

For more information about the resources please go to: [www.slam.nhs.uk/library](file:///C:\Users\Elaine.Watson\Downloads\www.slam.nhs.uk\library) .

## Summary of Results

In view of the volume of the literature which has come out over the last 12 months I have largely limited to systematic reviews and did not look beyond Medline.

## Contents

[A. Original Research](#Content5)

1. [Alzheimer's Disease and Face Masks in Times of COVID-19.](#Research858152)
2. [Coronavirus disease 2019 and neurodegenerative disease: what will the future bring?](#Research858155)
3. [COVID-19 and dementia: Analyses of risk, disparity, and outcomes from electronic health records in the US.](#Research858161)
4. [Dementia and outcomes from coronavirus disease 2019 (COVID-19) pneumonia: A systematic review and meta-analysis.](#Research858151)
5. [Direct and indirect neurological, cognitive, and behavioral effects of COVID-19 on the healthy elderly, mild-cognitive-impairment, and Alzheimer's disease populations.](#Research858156)
6. [Effects of COVID-19 Home Confinement on Mental Health in Individuals with Increased Risk of Alzheimer's Disease.](#Research858153)
7. [Elevated risk of COVID-19 in people with dementia.](#Research858162)
8. [Ethical care during COVID-19 for care home residents with dementia.](#Research858157)
9. [Managing medicines in the time of COVID-19: implications for community-dwelling people with dementia.](#Research858159)
10. [Neurobiochemical Cross-talk Between COVID-19 and Alzheimer's Disease.](#Research858154)
11. [Practical nursing recommendations for palliative care for people with dementia living in long-term care facilities during the COVID-19 pandemic: A rapid scoping review.](#Research858163)
12. [Prevalence of dementia and its impact on mortality in patients with coronavirus disease 2019: A systematic review and meta-analysis.](#Research858158)
13. [Remotely delivered information, training and support for informal caregivers of people with dementia.](#Research858164)
14. [The effects of the COVID-19 pandemic on people with dementia.](#Research858160)
15. [A Systematic Review of Home-Setting Psychoeducation Interventions for Behavioral Changes in Dementia: Some Lessons for the COVID-19 Pandemic and Post-Pandemic Assistance.](#Research858171)
16. [Cognitive and Neuropsychiatric Manifestations of COVID-19 and Effects on Elderly Individuals With Dementia.](#Research858165)
17. [Coping with Dementia in the Middle of the COVID-19 Pandemic.](#Research858176)
18. [Correlations between COVID-19 and burden of dementia: An ecological study and review of literature.](#Research858177)
19. [Impact of COVID-19 on Alzheimer's Disease Risk: Viewpoint for Research Action.](#Research858178)
20. [Nanotargeting of Drug(s) for Delaying Dementia: Relevance of Covid-19 Impact on Dementia.](#Research858167)
21. [Neurologic and Immunologic Complications of COVID-19: Potential Long-Term Risk Factors for Alzheimer's Disease.](#Research858179)
22. [Neuropsychiatric Symptoms in Elderly With Dementia During COVID-19 Pandemic: Definition, Treatment, and Future Directions.](#Research858166)
23. [Remote cognitive and behavioral assessment: Report of the Alzheimer Society of Canada Task Force on dementia care best practices for COVID-19.](#Research858169)
24. [Tackling challenges in care of Alzheimer's disease and other dementias amid the COVID-19 pandemic, now and in the future.](#Research858175)
25. [The Effects of COVID-19 and Quarantine Measures on the Lifestyles and Mental Health of People Over 60 at Increased Risk of Dementia.](#Research858172)
26. [The Impact of COVID-19 Infection and Enforced Prolonged Social Isolation on Neuropsychiatric Symptoms in Older Adults With and Without Dementia: A Review.](#Research858170)
27. [The Impact of Dementia on the Clinical Outcome of COVID-19: A Systematic Review and Meta-Analysis.](#Research858168)
28. [The Influence of Telemedicine Care on the Management of Behavioral and Psychological Symptoms in Dementia (BPSD) Risk Factors Induced or Exacerbated During the COVID-19 Pandemic.](#Research858173)
29. [The Vagal Autonomic Pathway of COVID-19 at the Crossroad of Alzheimer's Disease and Aging: A Review of Knowledge.](#Research858174)

### [B. Search History](#SearchHistory)

## A. Original Research

1. **Alzheimer's Disease and Face Masks in Times of COVID-19.**  
   Gil Roger Journal of Alzheimer's disease : JAD 2021;79(1):9-14.

Generalized lockdown caused by COVID-19, necessary yesterday, can no longer be that of tomorrow. It will no longer be possible to cram the humblest into cramped areas, but priority must be given to prevention (certainly with physical barriers, hydro-alcoholic gel, face masks), biological diagnosis, isolation, and also the care of any infected person. COVID-19 has hit the most vulnerable first in terms of biological inequality, such as Alzheimer's disease (AD) patients. Those with AD can have sensorial deficits and perception troubles, including visual difficulties and the inability to recognize faces and emotions. Face masks and physical distancing can disrupt facial familiarity and make it more difficult to recognize emotional facial expressions. It can provoke distress, which the visitor can perceive and feel obligated to take off the face mask. This gesture should not be considered as an act of indiscipline, but an act of empathy. Transparent face masks could improve the suffering of AD patients, distraught in the presence of their loved ones whose masks hide their faces. Wearing a mask should not be due to fear of punishment, but as an understanding of the responsibility of each individual in the control of the current pandemic. It may be necessary to convince more citizens of this civic duty, using clear and attractive messaging in order to standardize the wearing of face masks for the general public and to adapt them to the needs of patients.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=b23b205f86bb44045b8e0c60083ea19a)

1. **Coronavirus disease 2019 and neurodegenerative disease: what will the future bring?**  
   McAlpine Lindsay S. Current opinion in psychiatry 2021;34(2):177-185.

PURPOSE OF REVIEWOver 70 million people worldwide, including those with neurodegenerative disease (NDD), have been diagnosed with coronavirus disease 2019 (COVID-19) to date. We review outcomes in patients with NDD and COVID-19 and discuss the hypothesis that due to putative commonalities of neuropathogenesis, COVID-19 may unmask or trigger NDD in vulnerable individuals.RECENT FINDINGSBased on a systematic review of published literature, patients with NDD, including dementia, Parkinson's disease, and multiple sclerosis (MS) make up a significant portion of hospitalized COVID-19 patients. Such patients are likely to present with altered mental status or worsening of their preexisting neurological symptoms. Patients with NDD and poor outcomes often have high-risk comorbid conditions, including advanced age, hypertension, diabetes, obesity, and heart/lung disease. Patients with dementia including Alzheimer's disease are at higher risk for hospitalization and death, whereas those with preexisting Parkinson's disease are not. MS patients have good outcomes and disease modifying therapies do not increase the risk for severe disease. Viral infections and attendant neuroinflammation have been associated with the pathogenesis of Alzheimer's disease, Parkinson's disease, and MS, suggesting that COVID-19 may have the potential to incite or accelerate neurodegeneration.SUMMARYSince patients with Alzheimer's disease are at higher risk for hospitalization and death in the setting of COVID-19, additional precautions and protective measures should be put in place to prevent infections and optimize management of comorbidities in this vulnerable population. Further studies are needed to determine whether COVID-19 may lead to an increased risk of developing NDD in susceptible individuals.

1. **COVID-19 and dementia: Analyses of risk, disparity, and outcomes from electronic health records in the US.**  
   Wang QuanQiu Alzheimer's & dementia : the journal of the Alzheimer's Association 2021;:No page numbers.

INTRODUCTIONAt present, there is limited data on the risks, disparity, and outcomes for COVID-19 in patients with dementia in the United States.METHODSThis is a retrospective case-control analysis of patient electronic health records (EHRs) of 61.9 million adult and senior patients (age ≥ 18 years) in the United States up to August 21, 2020.RESULTSPatients with dementia were at increased risk for COVID-19 compared to patients without dementia (adjusted odds ratio [AOR]: 2.00 [95% confidence interval (CI), 1.94-2.06], P < .001), with the strongest effect for vascular dementia (AOR: 3.17 [95% CI, 2.97-3.37], P < .001), followed by presenile dementia (AOR: 2.62 [95% CI, 2.28-3.00], P < .001), Alzheimer's disease (AOR: 1.86 [95% CI, 1.77-1.96], P < .001), senile dementia (AOR: 1.99 [95% CI, 1.86-2.13], P < .001) and post-traumatic dementia (AOR: 1.67 [95% CI, 1.51-1.86] P < .001). Blacks with dementia had higher risk of COVID-19 than Whites (AOR: 2.86 [95% CI, 2.67-3.06], P < .001). The 6-month mortality and hospitalization risks in patients with dementia and COVID-19 were 20.99% and 59.26%, respectively.DISCUSSIONThese findings highlight the need to protect patients with dementia as part of the strategy to control the COVID-19 pandemic.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=38af2be5623e74091a6158b819a37963)

1. **Dementia and outcomes from coronavirus disease 2019 (COVID-19) pneumonia: A systematic review and meta-analysis.**  
   Hariyanto Timotius Ivan Archives of gerontology and geriatrics 2021;93:104299.

BACKGROUNDThe number of positive and death cases from coronavirus disease 2019 (COVID-19) is still increasing until now. One of the most prone individuals, even in normal situations is patients with dementia. Currently, no study provides clear evidence regarding the link between dementia and COVID-19. This study aims to analyze the relationship between dementia and poor outcomes of COVID-19 infection.MATERIALS AND METHODSWe systematically searched the PubMed and Europe PMC database using specific keywords related to our aims until October 25th, 2020. All articles published on COVID-19 and dementia were retrieved. The quality of the study was assessed using the Newcastle Ottawa Scale (NOS) tool for observational studies. Statistical analysis was done using Review Manager 5.4 software.RESULTSA total of 24 studies with 46,391 dementia patients were included in this meta-analysis. This meta-analysis showed that dementia was associated with composite poor outcome [RR 2.67 (95% CI 2.06 - 3.47), p < 0.00001, I2 = 99%, random-effect modeling] and its subgroup which comprised of risk of COVID-19 infection [RR 2.76 (95% CI 1.43 - 5.33), p = 0.003, I2 = 99%, random-effect modeling], severe COVID-19 [RR 2.63 (95% CI 1.41 - 4.90), p = 0.002, I2 = 89%, random-effect modeling], and mortality from COVID-19 infection [RR 2.62 (95% CI 2.04 - 3.36), p < 0.00001, I2 = 96%, random-effect modeling].CONCLUSIONSExtra care and close monitoring should then be provided to patients with dementia to minimize the risk of infections, preventing the development of severe and mortality outcomes.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=9a110315177996fadc0433ff9575c8b7)

1. **Direct and indirect neurological, cognitive, and behavioral effects of COVID-19 on the healthy elderly, mild-cognitive-impairment, and Alzheimer's disease populations.**  
   Iodice Francesco Neurological sciences : official journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology 2021;42(2):455-465.

INTRODUCTIONHealthy elderly, mild cognitive impairment and Alzheimer's disease populations have been among the most affected in the early stages of the COVID-19 pandemic due to the direct effects of the virus, and numerous indirect effects now emerge and will have to be carefully assessed over time.METHODSThis article reviews the main articles that have been published so far about the direct and indirect effects of the COVID-19 pandemic on these particularly fragile populations.RESULTSThe pandemic associated to COVID-19 has shifted most of the health resources to the emergency area and has consequently left the three main medical areas dealing with the elderly population (oncology, time-dependent diseases and degenerative disease) temporarily "uncovered". In the phase following the emergency, it will be crucial to guarantee to each area the economic and organizational resources to quickly return to the level of support of the prepandemic state.CONCLUSIONSThe emergency phase represented a significant occasion of discussion on the possibilities of telemedicine which will inevitably become increasingly important, but all the limits of its use in the elderly population have to be considered. In the post-lockdown recovery phase, alongside the classic medical evaluation, the psychological evaluation must become even more important for doctors caring about people with cognitive decline as well as with their caregivers.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=f5ea42bece7bb6a0c960e4816f9594a7)

1. **Effects of COVID-19 Home Confinement on Mental Health in Individuals with Increased Risk of Alzheimer's Disease.**  
   Soldevila-Domenech Natalia Journal of Alzheimer's disease : JAD 2021;79(3):1015-1021.

We explored the impact of the Spanish COVID-19 strict home confinement on mental health and cognition in non-infected subjects (N = 16, 60-80 years) diagnosed with subjective cognitive decline and APOEɛ3/ɛ4 carriers. Mental health was monitored for 2 months on a daily, weekly, or monthly basis, and compared to pre-confinement values. Emotional distress, anxiety, and depression scores increased to pathological threshold values during and after confinement. Those with lower mood during confinement experienced a decline in their mood after confinement. Cognition did not change. These preliminary results suggest that mental health consequences of corona measures in preclinical stages of Alzheimer's disease should be further evaluated.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=bee263e0e6350bd73c867b45cf8b9fa0)

1. **Elevated risk of COVID-19 in people with dementia.**  
   Wood Heather Nature reviews. Neurology 2021;:No page numbers.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=6a0b1abe414aa2679b9467fc1fc46b90)

1. **Ethical care during COVID-19 for care home residents with dementia.**  
   Cousins Emily Nursing ethics 2021;28(1):46-57.

The COVID-19 pandemic has had a devastating impact on care homes in the United Kingdom, particularly for those residents living with dementia. The impetus for this article comes from a recent review conducted by the authors. That review, a qualitative media analysis of news and academic articles published during the first few months of the outbreak, identified ethical care as a key theme warranting further investigation within the context of the crisis. To explore ethical care further, a set of salient ethical values for delivering care to care home residents living with dementia during the pandemic was derived from a synthesis of relevant ethical standards, codes and philosophical approaches. The ethical values identified were caring, non-maleficence, beneficence, procedural justice, dignity in death and dying, well-being, safety, and personhood. Using these ethical values as a framework, alongside examples from contemporaneous media and academic sources, this article discusses the delivery of ethical care to care home residents with dementia within the context of COVID-19. The analysis identifies positive examples of ethical values displayed by care home staff, care sector organisations, healthcare professionals and third sector advocacy organisations. However, concerns relating to the death rates, dignity, safety, well-being and personhood - of residents and staff - are also evident. These shortcomings are attributable to negligent government strategy, which resulted in delayed guidance, lack of resources and Personal Protective Equipment, unclear data, and inconsistent testing. Consequently, this review demonstrates the ways in which care homes are underfunded, under resourced and undervalued.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=0e103af283e615e6228a202d0bd7f608)

1. **Managing medicines in the time of COVID-19: implications for community-dwelling people with dementia.**  
   Barry Heather E. International journal of clinical pharmacy 2021;43(1):275-279.

COVID-19 has changed life beyond recognition for millions of individuals, as countries implement social distancing measures to prevent disease transmission. For certain patient groups, such as community-dwelling older people with dementia (PwD), these restrictions may have far-reaching consequences. Medicines management may be adversely affected and deserves careful thought. PwD face unique challenges with medicines management compared to other older people, often relying upon support from family/carers and primary healthcare professionals. This article considers potential issues that PwD may face with each component of medicines management (prescribing, dispensing, administration, adherence, review), and based on previous research, highlights strategies to support PwD and their carers during this time. Primary healthcare professionals must be attentive to medicines-related needs of community-dwelling PwD, particularly those living alone, both during the pandemic and as restrictions are lifted. Carers of PwD continue to have a critical role to play in medicines management, and also require support.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=12900818400369092788017a86e10e82)

1. **Neurobiochemical Cross-talk Between COVID-19 and Alzheimer's Disease.**  
   Rahman Mohammad Azizur Molecular neurobiology 2021;58(3):1017-1023.

COVID-19, the global threat to humanity, shares etiological cofactors with multiple diseases including Alzheimer's disease (AD). Understanding the common links between COVID-19 and AD would harness strategizing therapeutic approaches against both. Considering the urgency of formulating COVID-19 medication, its AD association and manifestations have been reviewed here, putting emphasis on memory and learning disruption. COVID-19 and AD share common links with respect to angiotensin-converting enzyme 2 (ACE2) receptors and pro-inflammatory markers such as interleukin-1 (IL-1), IL-6, cytoskeleton-associated protein 4 (CKAP4), galectin-9 (GAL-9 or Gal-9), and APOE4 allele. Common etiological factors and common manifestations described in this review would aid in developing therapeutic strategies for both COVID-19 and AD and thus impact on eradicating the ongoing global threat. Thus, people suffering from COVID-19 or who have come round of it as well as people at risk of developing AD or already suffering from AD, would be benefitted.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=19341d68a9e5b3bae07e929e669a8ea3)

1. **Practical nursing recommendations for palliative care for people with dementia living in long-term care facilities during the COVID-19 pandemic: A rapid scoping review.**  
   Bolt Sascha R. International journal of nursing studies 2021;113:103781.

BACKGROUNDThe acute nature of COVID-19 and its effects on society in terms of social distancing and quarantine regulations affect the provision of palliative care for people with dementia who live in long-term care facilities. The current COVID-19 pandemic poses a challenge to nursing staff, who are in a key position to provide high-quality palliative care for people with dementia and their families.OBJECTIVETo formulate practice recommendations for nursing staff with regard to providing palliative dementia care in times of COVID-19.DESIGN AND METHODA rapid scoping review following guidelines from the Joanna Briggs Institute. Eligible papers focused on COVID-19 in combination with palliative care for older people or people with dementia and informed practical nursing recommendations for long-term care facilities. After data extraction, we formulated recommendations covering essential domains in palliative care adapted from the National Consensus Project's Clinical Practice Guidelines for Quality Palliative Care.DATA SOURCESWe searched the bibliographic databases of PubMed, CINAHL and PsycINFO for academic publications. We searched for grey literature using the search engine Google. Moreover, we included relevant letters and editorials, guidelines, web articles and policy papers published by knowledge and professional institutes or associations in dementia and palliative care.RESULTSIn total, 23 documents (7 (special) articles in peer-reviewed journals, 6 guides, 4 letters to editors, 2 web articles (blogs), 2 reports, a correspondence paper and a position paper) were included. The highest number of papers informed recommendations under the domains 'advance care planning' and 'psychological aspects of care'. The lowest number of papers informed the domains 'ethical care', 'care of the dying', 'spiritual care' and 'bereavement care'. We found no papers that informed the 'cultural aspects of care' domain.CONCLUSIONLiterature that focuses specifically on palliative care for people with dementia in long-term care facilities during the COVID-19 pandemic is still largely lacking. Particular challenges that need addressing involve care of the dying and the bereaved, and ethical, cultural and spiritual aspects of care. Moreover, we must acknowledge grief and moral distress among nursing staff. Nursing leadership is needed to safeguard the quality of care and nursing staff should work together within an interprofessional care team to initiate advance care planning conversations in a timely manner, to review and document advance care plans, and to adapt goals of care as they may change due to the COVID-19 situation. Tweetable abstract: The current COVID-19 pandemic affects people living with dementia, their families and their professional caregivers. This rapid scoping review searched for academic and grey literature to formulate practical recommendations for nursing staff working in long-term care facilities on how to provide palliative care for people with dementia in times of COVID-19. There is a particular need for grief and bereavement support and we must acknowledge grief and moral distress among nursing staff. This review exposes practice and knowledge gaps in the response to COVID-19 that reflect the longstanding neglect and weaknesses of palliative care in the long-term care sector. Nursing leadership is needed to safeguard the quality of palliative care, interprofessional collaboration and peer support among nursing staff.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=dd44267fc6a4ffd562847a8dfd294364)

1. **Prevalence of dementia and its impact on mortality in patients with coronavirus disease 2019: A systematic review and meta-analysis.**  
   July Julius Geriatrics & gerontology international 2021;21(2):172-177.

AIMIn this systematic review and meta-analysis, we aimed to evaluate the prevalence of dementia in patients with COVID-19 and its association with mortality. We also aimed to discover whether age, sex and other comorbidities might affect the association between dementia and mortality.METHODSWe carried out a systematic literature search using PubMed, SCOPUS, EuropePMC and the Cochrane Central Database. The outcome of interest was mortality, defined as clinically validated mortality/death/non-survivor in the studies. The pooled effect estimates were presented as odds ratio and adjusted odds ratio.RESULTSA total of 56 577 patients from 10 studies were included. The prevalence of dementia in this pooled analysis was 10% (7-13%). Dementia was associated with increased mortality in both pooled unadjusted (odds ratio 2.80, 95% CI 1.85-4.24, P < 0.001; I2 = 93.7%) and adjusted effect estimates (adjusted odds ratio 1.80, 95% CI 1.45-2.24, P < 0.001; I2 = 72.9%). The association between dementia and mortality was influenced by age (coefficient -0.047, P < 0.001) and hypertension (coefficient -0.009, P = 0.020).CONCLUSIONSThis study showed that dementia was associated with increased mortality in COVID-19 patients. The association was affected by age and comorbidities. Geriatr Gerontol Int 2021; 21: 172-177.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=be5666c83c6b8c7585a1113e74433c22)

1. **Remotely delivered information, training and support for informal caregivers of people with dementia.**  
   González-Fraile Eduardo The Cochrane database of systematic reviews 2021;1:CD006440.

BACKGROUNDMany people with dementia are cared for at home by unpaid informal caregivers, usually family members. Caregivers may experience a range of physical, emotional, financial and social harms, which are often described collectively as caregiver burden. The degree of burden experienced is associated with characteristics of the caregiver, such as gender, and characteristics of the person with dementia, such as dementia stage, and the presence of behavioural problems or neuropsychiatric disturbances. It is a strong predictor of admission to residential care for people with dementia. Psychoeducational interventions might prevent or reduce caregiver burden. Overall, they are intended to improve caregivers' knowledge about the disease and its care; to increase caregivers' sense of competence and their ability to cope with difficult situations; to relieve feelings of isolation and allow caregivers to attend to their own emotional and physical needs. These interventions are heterogeneous, varying in their theoretical framework, components, and delivery formats. Interventions that are delivered remotely, using printed materials, telephone or video technologies, may be particularly suitable for caregivers who have difficulty accessing face-to-face services because of their own health problems, poor access to transport, or absence of substitute care. During the COVID-19 pandemic, containment measures in many countries required people to be isolated in their homes, including people with dementia and their family carers. In such circumstances, there is no alternative to remote delivery of interventions.OBJECTIVESTo assess the efficacy and acceptability of remotely delivered interventions aiming to reduce burden and improve mood and quality of life of informal caregivers of people with dementia.SEARCH METHODSWe searched the Specialised Register of the Cochrane Dementia and Cognitive Improvement Group, MEDLINE, Embase and four other databases, as well as two international trials registries, on 10 April 2020. We also examined the bibliographies of relevant review papers and published trials.SELECTION CRITERIAWe included only randomised controlled trials that assessed the remote delivery of structured interventions for informal caregivers who were providing care for people with dementia living at home. Caregivers had to be unpaid adults (relatives or members of the person's community). The interventions could be delivered using printed materials, the telephone, the Internet or a mixture of these, but could not involve any face-to-face contact with professionals. We categorised intervention components as information, training or support. Information interventions included two key elements: (i) they provided standardised information, and (ii) the caregiver played a passive role. Support interventions promoted interaction with other people (professionals or peers). Training interventions trained caregivers in practical skills to manage care. We excluded interventions that were primarily individual psychotherapy. Our primary outcomes were caregiver burden, mood, health-related quality of life and dropout for any reason. Secondary outcomes were caregiver knowledge and skills, use of health and social care resources, admission of the person with dementia to institutional care, and quality of life of the person with dementia.DATA COLLECTION AND ANALYSISStudy selection, data extraction and assessment of the risk of bias in included studies were done independently by two review authors. We used the Template for Intervention Description and Replication (TIDieR) to describe the interventions. We conducted meta-analyses using a random-effects model to derive estimates of effect size. We used GRADE methods to describe our degree of certainty about effect estimates.MAIN RESULTSWe included 26 studies in this review (2367 participants). We compared (1) interventions involving training, support or both, with or without information (experimental interventions) with usual treatment, waiting list or attention control (12 studies, 944 participants); and (2) the same experimental interventions with provision of information alone (14 studies, 1423 participants). We downgraded evidence for study limitations and, for some outcomes, for inconsistency between studies. There was a frequent risk of bias from self-rating of subjective outcomes by participants who were not blind to the intervention. Randomisation methods were not always well-reported and there was potential for attrition bias in some studies. Therefore, all evidence was of moderate or low certainty. In the comparison of experimental interventions with usual treatment, waiting list or attention control, we found that the experimental interventions probably have little or no effect on caregiver burden (nine studies, 597 participants; standardised mean difference (SMD) -0.06, 95% confidence interval (CI) -0.35 to 0.23); depressive symptoms (eight studies, 638 participants; SMD -0.05, 95% CI -0.22 to 0.12); or health-related quality of life (two studies, 311 participants; SMD 0.10, 95% CI -0.13 to 0.32). The experimental interventions probably result in little or no difference in dropout for any reason (eight studies, 661 participants; risk ratio (RR) 1.15, 95% CI 0.87 to 1.53). In the comparison of experimental interventions with a control condition of information alone, we found that experimental interventions may result in a slight reduction in caregiver burden (nine studies, 650 participants; SMD -0.24, 95% CI -0.51 to 0.04); probably result in a slight improvement in depressive symptoms (11 studies, 1100 participants; SMD -0.25, 95% CI -0.43 to -0.06); may result in little or no difference in caregiver health-related quality of life (two studies, 257 participants; SMD -0.03, 95% CI -0.28 to 0.21); and probably result in an increase in dropouts for any reason (12 studies, 1266 participants; RR 1.51, 95% CI 1.04 to 2.20).AUTHORS' CONCLUSIONSRemotely delivered interventions including support, training or both, with or without information, may slightly reduce caregiver burden and improve caregiver depressive symptoms when compared with provision of information alone, but not when compared with usual treatment, waiting list or attention control. They seem to make little or no difference to health-related quality of life. Caregivers receiving training or support were more likely than those receiving information alone to drop out of the studies, which might limit applicability. The efficacy of these interventions may depend on the nature and availability of usual services in the study settings.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=d7b982efc18a3124c3a646805e91f3a6)

1. **The effects of the COVID-19 pandemic on people with dementia.**  
   Numbers Katya Nature reviews. Neurology 2021;17(2):69-70.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=fbcbea86860e198a5b4187c5f56a16b3)

1. **A Systematic Review of Home-Setting Psychoeducation Interventions for Behavioral Changes in Dementia: Some Lessons for the COVID-19 Pandemic and Post-Pandemic Assistance.**  
   Alves Gilberto Sousa Frontiers in psychiatry 2020;11:577871.

BackgroundImpacts of social isolation measures imposed by COVID-19 Pandemic on mental health and quality of life of older adults living with dementia and their caregivers remain unexplored. Studies have shown that psychoeducational and psychosocial interventions can manage behavioral and psychological symptoms in dementia (BPSD) and reduce the emotional burden on family members when applied in home-setting scenarios.Methoda comprehensive systematic review of useful interventions for easing the BPSD burden in patients with dementia (PwD) and their caregivers in the context of COVID-19 quarantine was performed from January 2010 to March 2020.ResultsFrom a total of 187 articles retrieved from electronic databases (MEDLINE, LILACS, Cochrane and SCOPUS), 43 studies were eligible for this review. Most of the psychosocial and psychoeducational interventions described were person-centered strategies based on the cognitive-behavioral approach or informational tools to enhance care providers' knowledge of dementia. Most studies achieved successful results in handling BPSD and mood-anxiety symptoms of care providers, contributing to an overall improvement in dyad life quality.ConclusionEvidence from the last few years suggest that low-cost techniques, tailored to the dyad well-being, with increasing use of technology through friendly online platforms and application robots, can be an alternative to conventional assistance during COVID-19 Pandemic. Nevertheless, the world's current experience regarding the duration of the COVID-19 Pandemic and its effects on the cognition, behavior, and life quality of PwD will demand research on preventive and protective factors of dementia and the pursue of efficient interventions in different scenarios.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=024095dcbac5484e2ded27a1329dbdb6)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=9aa14ff5517bd41dd0036ecd0cdcefbd)

1. **Cognitive and Neuropsychiatric Manifestations of COVID-19 and Effects on Elderly Individuals With Dementia.**  
   Alonso-Lana Silvia Frontiers in aging neuroscience 2020;12:588872.

The coronavirus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has rapidly spread worldwide and has had unprecedented effects in healthcare systems, economies and society. COVID-19 clinical presentation primarily affects the respiratory system causing bilateral pneumonia, but it is increasingly being recognized as a systemic disease, with neurologic manifestations reported in patients with mild symptoms but, most frequently, in those in a severe condition. Elderly individuals are at high risk of developing severe forms of COVID-19 due to factors associated with aging and a higher prevalence of medical comorbidities and, therefore, they are more vulnerable to possible lasting neuropsychiatric and cognitive impairments. Several reports have described insomnia, depressed mood, anxiety, post-traumatic stress disorder and cognitive impairment in a proportion of patients after discharge from the hospital. The potential mechanisms underlying these symptoms are not fully understood but are probably multifactorial, involving direct neurotrophic effect of SARS-CoV-2, consequences of long intensive care unit stays, the use of mechanical ventilation and sedative drugs, brain hypoxia, systemic inflammation, secondary effects of medications used to treat COVID-19 and dysfunction of peripheral organs. Chronic diseases such as dementia are a particular concern not only because they are associated with higher rates of hospitalization and mortality but also because COVID-19 further exacerbates the vulnerability of those with cognitive impairment. In patients with dementia, COVID-19 frequently has an atypical presentation with mental status changes complicating the early identification of cases. COVID-19 has had a dramatical impact in long-term care facilities, where rates of infection and mortality have been very high. Community measures implemented to slow the spread of the virus have forced to social distancing and cancelation of cognitive stimulation programs, which may have contributed to generate loneliness, behavioral symptoms and worsening of cognition in patients with dementia. COVID-19 has impacted the functioning of Memory Clinics, research programs and clinical trials in the Alzheimer's field, triggering the implementation of telemedicine. COVID-19 survivors should be periodically evaluated with comprehensive cognitive and neuropsychiatric assessments, and specific mental health and cognitive rehabilitation programs should be provided for those suffering long-term cognitive and psychiatric sequelae.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=f2af8a83011408bece371a97b97f02e8)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=511d13a9019a62a852f42adcdd89859c)

1. **Coping with Dementia in the Middle of the COVID-19 Pandemic.**  
   Ryoo Nayoung Journal of Korean medical science 2020;35(42):e383.

Multiple neurological complications have been associated with the coronavirus disease-19 (COVID-19), which is caused by severe acute respiratory syndrome coronavirus 2. This is a narrative review to gather information on all aspects of COVID-19 in elderly patients with cognitive impairment. First, the following three mechanisms have been proposed to underlie the neurological complications associated with COVID-19: 1) direct invasion, 2) immune and inflammatory reaction, and 3) hypoxic brain damage by COVID-19. Next, because the elderly dementia patient population is particularly vulnerable to COVID-19, we discussed risk factors and difficulties associated with cognitive disorders in this vulnerable population. We also reviewed the effects of the patient living environment in COVID-19 cases that required intensive care unit (ICU) care. Furthermore, we analyzed the impact of stringent social restrictions and COVID-19 pandemic-mediated policies on dementia patients and care providers. Finally, we provided the following strategies for working with elderly dementia patients: general preventive methods; dementia care at home and nursing facilities according to the activities of daily living and dementia characteristics; ICU care after COVID-19 infection; and public health care system and government response. We propose that longitudinal follow-up studies are needed to fully examine COVID-19 associated neurological complications, such as dementia, and the efficacy of telemedicine/telehealth care programs.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=09edcb1d57c3455dacd934e34995b178)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=75677b233e8c4583305282b6ef4d9ffb)

1. **Correlations between COVID-19 and burden of dementia: An ecological study and review of literature.**  
   Azarpazhooh M. Reza Journal of the neurological sciences 2020;416:117013.

INTRODUCTIONCurrent evidence on the association between COVID-19 and dementia is sparse. This study aims to investigate the associations between COVID-19 caseload and the burden of dementia.METHODSWe gathered data regarding burden of dementia (disability-adjusted life years [DALYs] per 100,000), life expectancy, and healthy life expectancy (HALE) from the Global Burden of Disease (GBD) 2017 study. We obtained COVID-19 data from Our World in Data database. We analyzed the association of COVID-19 cases and deaths with the burden of dementia using Spearman's rank correlation coefficient.RESULTSGlobally, we found significant positive (p < .001) correlations between life expectancy (r = 0.60), HALE (r = 0.58), and dementia DALYs (r = 0.46) with COVID-19 caseloads. Likewise, we found similar correlations between life expectancy (r = 0.60), HALE (r = 0.58) and dementia DALYs (r = 0.54) with COVID-19 mortality.CONCLUSIONHealth policymakers should clarify a targeted model of disease surveillance in order to reduce the dual burden of dementia and COVID-19.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=d6f212e9bc81f462f8369a943200f398)

1. **Impact of COVID-19 on Alzheimer's Disease Risk: Viewpoint for Research Action.**  
   Abate Giulia Healthcare (Basel, Switzerland) 2020;8(3):No page numbers.

In the middle of the coronavirus disease 19 (COVID-19) outbreak, the main efforts of the scientific community are rightly all focused on identifying efficient pharmacological treatments to cure the acute severe symptoms and developing a reliable vaccine. On the other hand, we cannot exclude that, in Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) positive subjects, the virus infection could have long-term consequences, leading to chronic medical conditions such as dementia and neurodegenerative disease. Considering the age of SARS-CoV-2 infected subjects, the neuroinvasive potential might lead/contribute to the development of neurodegenerative diseases. Here, we analyzed a possible link between SARS-CoV-2 infection and Alzheimer's disease risk, hypothesizing possible mechanisms at the base of disease development. This reflection raises the need to start to experimentally investigating today the mechanistic link between Alzheimer's disease (AD) and COVID-19 to be ready tomorrow.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=af564376a2590a7132bb52c096c765eb)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=aa03493391ef4ab09453808a0197cb6f)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=11db5e9c344fb885b1bf19c38b17135e)

1. **Nanotargeting of Drug(s) for Delaying Dementia: Relevance of Covid-19 Impact on Dementia.**  
   D'Arrigo Joseph S. American journal of Alzheimer's disease and other dementias 2020;35:1533317520976761.

By incorporating appropriate drug(s) into lipid (biobased) nanocarriers, one obtains a combination therapeutic for dementia treatment that targets certain cell-surface scavenger receptors (mainly class B type I, or "SR-BI") and thereby crosses the blood-brain barrier. The cardiovascular risk factors for dementia trigger widespread inflammation -- which lead to neurodegeneration, gradual cognitive/memory decline, and eventually (late-onset) dementia. Accordingly, one useful strategy to delay dementia could be based upon nanotargeting drug(s), using lipid nanocarriers, toward a major receptor class responsible for inflammation-associated (cytokine-mediated) cell signaling events. At the same time, the immune response and excessive inflammation, commonly observed in the very recent human coronavirus (COVID-19) pandemic, may accelerate the progression of brain inflammatory neurodegeneration-which increases the probability of post-infection memory impairment and accelerating progression of Alzheimer's disease. Hence, the proposed multitasking combination therapeutic, using a (biobased) lipid nanocarrier, may also display greater effectiveness at different stages of dementia.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=938fa464035534f2d50c687ff32b9098)

1. **Neurologic and Immunologic Complications of COVID-19: Potential Long-Term Risk Factors for Alzheimer's Disease.**  
   Lennon Jack C. Journal of Alzheimer's disease reports 2020;4(1):217-221.

The COVID-19 pandemic has been met with studies on risk factors, characteristics, and clinical course. Among these characteristics are neurologic symptoms, which may provide improved insight into the mechanisms of this novel virus and the brain's susceptibility to infectious diseases. This article aims to discuss 1) findings related to neurologic complications, 2) how they connect to and are bidirectionally impacted by bioimmunology, 3) how this combination of biological mechanisms impact and are impacted by psychosocial stressors, and 4) the importance of considering potential neurodegenerative consequences of COVID-19. Longitudinal studies on neuropathology and cognition are critical to avoiding premature conclusions related to long-term neurologic effects.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=4b9f2a5f3dab442a239aff839519005b)

1. **Neuropsychiatric Symptoms in Elderly With Dementia During COVID-19 Pandemic: Definition, Treatment, and Future Directions.**  
   Simonetti Alessio Frontiers in psychiatry 2020;11:579842.

BackgroundNeuropsychiatric symptoms (NPS) of dementia, such as anxiety, depression, agitation, and apathy, are complex, stressful, and costly aspects of care, and are associated to poor health outcomes and caregiver burden. A steep worsening of such symptoms has been reported during Coronavirus Disease 2019 (COVID-19) pandemic. However, their causes, their impact on everyday life, and treatment strategies have not been systematically assessed. Therefore, the aim of this review is to provide a detailed description of behavioral and psychopathological alterations in subjects with dementia during COVID-19 pandemic and the associated management challenges.MethodsA PubMed search was performed focusing on studies reporting alterations in behavior and mood and treatment strategies for elderly patients with dementia, in accordance with PRISMA guidelines. The following search strategy was utilized: (COVID\* OR coronavirus OR "corona vir\*" OR SARS-CoV-2) AND (dementia OR demented OR dement\* OR alzheimer\* OR "pick's disease" OR "lewy body" OR "mild cognitive" OR mild cognitive impairment OR MCI).ResultsApathy, anxiety and agitation are the most frequently NPS during the COVID-19 pandemic and are mainly triggered by protracted isolation. Most treatment strategies rely on pharmacotherapy; technology is increasingly utilized with mixed results.ConclusionsNPS of dementia during COVID-19 appear to arise from social restrictions occurring as a consequence of the pandemic. Implementation of caregiver support and the presence of skilled nursing home staff are required to restore social interaction and adjust technological support to the patients' needs.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=c7c6fa2f2aa99e5040244bed90d462fd)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=1f45044b00c9e097427120a2c27beae3)

1. **Remote cognitive and behavioral assessment: Report of the Alzheimer Society of Canada Task Force on dementia care best practices for COVID-19.**  
   Geddes Maiya R. Alzheimer's & dementia (Amsterdam, Netherlands) 2020;12(1):e12111.

IntroductionDespite the urgent need for remote neurobehavioral assessment of individuals with cognitive impairment, guidance is lacking. Our goal is to provide a multi-dimensional framework for remotely assessing cognitive, functional, behavioral, and physical aspects of people with cognitive impairment, along with ethical and technical considerations.MethodsLiterature review on remote cognitive assessment and multidisciplinary expert opinion from behavioral neurologists, neuropsychiatrists, neuropsychologists, and geriatricians was integrated under the auspices of the Alzheimer Society of Canada Task Force on Dementia Care Best Practices for COVID-19. Telephone and video approaches to assessments were considered.ResultsRemote assessment is shown to be acceptable to patients and caregivers. Informed consent, informant history, and attention to privacy and autonomy are paramount. A range of screening and domain-specific instruments are available for telephone or video assessment of cognition, function, and behavior. Some neuropsychological tests administered by videoconferencing show good agreement with in-person assessment but still lack validation and norms. Aspects of the remote dementia-focused neurological examination can be performed reliably.DiscussionDespite challenges, current literature and practice support implementation of telemedicine assessments for patients with cognitive impairment. Convergence of data across the clinical interview, reliable and brief remote cognitive tests, and remote neurological exam increase confidence in clinical interpretation and diagnosis.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=3ac1d58a3abdee793e124896cbbe57b4)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=18850cc4e15078f0fd8a207175cbd703)

1. **Tackling challenges in care of Alzheimer's disease and other dementias amid the COVID-19 pandemic, now and in the future.**  
   Mok Vincent C. T Alzheimer's & dementia : the journal of the Alzheimer's Association 2020;16(11):1571-1581.

We have provided an overview on the profound impact of COVID-19 upon older people with Alzheimer's disease and other dementias and the challenges encountered in our management of dementia in different health-care settings, including hospital, out-patient, care homes, and the community during the COVID-19 pandemic. We have also proposed a conceptual framework and practical suggestions for health-care providers in tackling these challenges, which can also apply to the care of older people in general, with or without other neurological diseases, such as stroke or parkinsonism. We believe this review will provide strategic directions and set standards for health-care leaders in dementia, including governmental bodies around the world in coordinating emergency response plans for protecting and caring for older people with dementia amid the COIVD-19 outbreak, which is likely to continue at varying severity in different regions around the world in the medium term.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=5b9df11845f2c18299eb9e464a6b5481)

1. **The Effects of COVID-19 and Quarantine Measures on the Lifestyles and Mental Health of People Over 60 at Increased Risk of Dementia.**  
   Di Santo Simona Gabriella Frontiers in psychiatry 2020;11:578628.

Background: The lockdown strategies adopted to limit the spread of COVID-19 infection may lead to adopt unhealthy lifestyles which may impact on the mental well-being and future risk of dementia. Older adults with mild cognitive impairment (MCI) or subjective cognitive decline (SCD) may suffer important mental health consequences from measures of quarantine and confinement. Aims: The study aimed to explore the effects of COVID-19 and quarantine measures on lifestyles and mental health of elderly at increased risk of dementia. Methods: One hundred and twenty six community-dwelling seniors with MCI or SCD were phone-interviewed and assessed with questions regarding variables related to COVID-19 pandemic, lifestyle changes and scales validated for the assessment of depression, anxiety, and apathy. Results: The sample included 55.6% patients with MCI and 56 people with SCD. Over 1/3 of the sample reduced their physical activity and nearly 70% reported an increase in idle time. Adherence to the Mediterranean diet decreased in almost 1/3 of respondents and over 35% reported weight gain. Social activities were abolished and 1/6 of participants also decreased productive and mental-stimulating activities. 19.8% were depressed, 9.5% anxious, and 9.5% apathetic. A significant association existed between depression and living alone or having a poor relation with cohabitants and between anxiety and SCD, cold or flu symptoms, and reduction in productive leisure activities. Conclusions: Seniors with SCD and MCI underwent lifestyle changes that are potentially harmful to their future cognitive decline, even if, with the exception of leisure activities, they do not appear to be cross-sectionally associated with psychiatric symptoms.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=f46c250b5d63a1f6ebda6e23006c1bb7)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=6382f7ee60bc5aacadc6f386f60afb5a)

1. **The Impact of COVID-19 Infection and Enforced Prolonged Social Isolation on Neuropsychiatric Symptoms in Older Adults With and Without Dementia: A Review.**  
   Manca Riccardo Frontiers in psychiatry 2020;11:585540.

Background: The sudden and drastic changes due to the Coronavirus Disease 19 (COVID-19) pandemic have impacted people's physical and mental health. Clinically-vulnerable older people are more susceptible to severe effects either directly by the COVID-19 infection or indirectly due to stringent social isolation measures. Social isolation and loneliness negatively impact mental health in older adults and may predispose to cognitive decline. People with cognitive impairments may also be at high risk of worsening cognitive and mental health due to the current pandemic. This review provides a summary of the recent literature on the consequences of COVID-19, due to either viral infection or social isolation, on neuropsychiatric symptoms in older adults with and without dementia. Methods: A search was conducted in PubMed and Web of Science to identify all relevant papers published up to the 7th July 2020. Two independent assessors screened and selected the papers suitable for inclusion. Additional suitable papers not detected by literature search were manually added. Results: Fifteen articles were included: 8 focussed on the psychiatric symptoms caused by the COVID-19 infection and 7 investigated the impact of social isolation on older adults' neuropsychiatric symptoms. Four studies included older adults without dementia and 11 included patients with cognitive impairment mainly due to Alzheimer's disease. All studies found that different neuropsychiatric symptoms emerged and/or worsened in older adults with and without dementia. These changes were observed as the consequence of both COVID-19 infection and of the enforced prolonged conditions of social isolation. Cases were reported of viral infection manifesting with delirium at onset in the absence of other symptoms. Delirium, agitation and apathy were the symptoms most commonly detected, especially in people with dementia. Conclusion: The available evidence suggests that the COVID-19 pandemic has a wide negative impact on the mental well-being of older adults with and without dementia. Viral infection and the consequent social isolation to limit its spreading have a range of neuropsychiatric consequences. Larger and more robustly designed studies are needed to clarify such effects and to assess the long-term implications for the mental health of older adults, and to test possible mitigating strategies.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=824082583aaddf89bd60cb4137ef4ac1)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=466a49bb3444276bd4928b8d323f25a3)

1. **The Impact of Dementia on the Clinical Outcome of COVID-19: A Systematic Review and Meta-Analysis.**  
   Liu Nanyang Journal of Alzheimer's disease : JAD 2020;78(4):1775-1782.

BACKGROUNDThe emergence of the coronavirus disease 2019 (COVID-19) has brought large challenges to dementia patients. We reviewed the existing literature on COVID-19 to assess the incidence and mortality of dementia comorbidities in COVID-19 patients.OBJECTIVETo investigate the impact of pre-existing dementia comorbidities on COVID-19.METHODSWe searched the PubMed, Embase, and Web of Science databases for patients with preexisting dementia who were diagnosed with COVID-19. The statistical data on the prevalence and mortality of dementia comorbidities were examined. A fixed-or random-effect model was used to calculate the overall pooled risk estimates. Forest plots were generated to show the summarized results.RESULTSA total of 265 articles were retrieved from the three databases. After removing duplicates and performing two screenings, 10 articles were selected for meta-analysis, including 119,218 participants. Overall, the meta-analysis of the 10 studies showed that the incidence of dementia in COVID-19 patients was (R: 9%, [95% CI: 6% to 13%]). Moreover, the meta-analysis of 9 studies showed that the mortality rate of individuals with dementia after being infected with COVID-19 was higher than that of individuals with no dementia (OR: 5.17 [95% CI: 2.31 to 11.59]). Substantial heterogeneity was observed in this meta-analysis. Significant publication bias was also found.CONCLUSIONEmerging literature shows that dementia comorbidities are a high risk factor for the prevalence and mortality of COVID-19. Our results should have an impact on preventive interventions and encourage more targeted approaches to prioritize older people with specific risk factors, such as dementia.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=86319b4c1c1fec161647ada9311d0d4a)

1. **The Influence of Telemedicine Care on the Management of Behavioral and Psychological Symptoms in Dementia (BPSD) Risk Factors Induced or Exacerbated During the COVID-19 Pandemic.**  
   Soares Walter Barbalho Frontiers in psychiatry 2020;11:577629.

The number of people with dementia worldwide is expected to increase to approximately 1.3 billion in 2050. Almost 90% of patients diagnosed with dementia suffer from behavioral and psychological symptoms of dementia (BPSD). BPSD causes and risk factors are multiple and complex and can be responsible for hospitalizations in long-term institutions, psychiatric hospitalizations and search for health services. Recently, the world imposition of social distance and self-isolation as the best preventive measures for the COVID-19 pandemic has created challenges in the health care and management of this population, which may trigger or aggravate BPSD, and most caregivers are not prepared to address it. In face of this actual social distancing, telemedicine comes to be a tool for improving the management of these acute symptoms and mental care. In this article, we discuss and disseminate recommendations on this important alternative of assistance, especially considering the cases of BPSD. In this context of a pandemic, even patients with BPSD and caregivers require more frequent and updated guidance, considering the difficult context to social distance. Telemedicine can reduce the risk for the development of negative outcomes in mental health precipitated by the reduction of social contact and less access to health services, improving dementia symptom management, mainly BPSD.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=006dd66a2478e4b40e5b70d68fb992af)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=62434fb26a1c769b99921f07ea2522cf)

1. **The Vagal Autonomic Pathway of COVID-19 at the Crossroad of Alzheimer's Disease and Aging: A Review of Knowledge.**  
   Rangon Claire-Marie Journal of Alzheimer's disease reports 2020;4(1):537-551.

Coronavirus Disease 2019 (COVID-19) pandemic-triggered mortality is significantly higher in older than in younger populations worldwide. Alzheimer's disease (AD) is related to aging and was recently reported to be among the major risk factors for COVID-19 mortality in older people. The symptomatology of COVID-19 indicates that lethal outcomes of infection rely on neurogenic mechanisms. The present review compiles the available knowledge pointing to the convergence of COVID-19 complications with the mechanisms of autonomic dysfunctions in AD and aging. The severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is prone to neuroinvasion from the lung along the vagus nerve up to the brainstem autonomic nervous centers involved in the coupling of cardiovascular and respiratory rhythms. The brainstem autonomic network allows SARS-CoV-2 to trigger a neurogenic switch to hypertension and hypoventilation, which may act in synergy with aging- and AD-induced dysautonomias, along with an inflammatory "storm". The lethal outcomes of COVID-19, like in AD and unhealthy aging, likely rely on a critical hypoactivity of the efferent vagus nerve cholinergic pathway, which is involved in lowering cardiovascular pressure and systemic inflammation tone. We further discuss the emerging evidence supporting the use of 1) the non-invasive stimulation of vagus nerve as an additional therapeutic approach for severe COVID-19, and 2) the demonstrated vagal tone index, i.e., heart rate variability, via smartphone-based applications as a non-serological low-cost diagnostic of COVID-19. These two well-known medical approaches are already available and now deserve large-scale testing on human cohorts in the context of both AD and COVID-19.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=8f5505b765974820b3a4d1bebd4a31f3)

### Opening Internet Links

The links to internet sites in this document are 'live' and can be opened by holding down the CTRL key on your keyboard while clicking on the web address with your mouse

### Full text papers

Links are given to full text resources where available. For some of the papers, you will need an **NHS OpenAthens Account**. If you do not have an account you can [register online](https://openathens.nice.org.uk/).

You can then access the papers by simply entering your username and password. If you do not have easy access to the internet to gain access, please let us know and we can download the papers for you.

### Guidance on searching within online documents

Links are provided to the full text of each document. Relevant extracts have been copied and pasted into these results. Rather than browse through lengthy documents, you can search for specific words as follows:

**Portable Document Format / pdf / Adobe**  
Click on the Search button (illustrated with binoculars). This will open up a search window. Type in the term you need to find and links to all of the references to that term within the document will be displayed in the window. You can jump to each reference by clicking it.

**Word documents**  
Select Edit from the menu, the Find and type in your term in the search box which is presented. The search function will locate the first use of the term in the document. By pressing 'next' you will jump to further references.

## B. Search History

|  | **Source** | **Criteria** | **Results** |
| --- | --- | --- | --- |
| 1. | Medline | (Covid\* OR SARS-COV\* OR coronavir\*).ti,ab | 112467 |
| 2. | Medline | "SARS-COV-2"/ | 46818 |
| 3. | Medline | "COVID-19"/ | 57888 |
| 6. | Medline | (1 OR 2 OR 3) | 117109 |
| 15. | Medline | ((cognitive OR memory) ADJ2 (impair\* OR problem\* OR dysfunction\* OR decline OR loss\* OR disorder\*)).ti | 38649 |
| 16. | Medline | (dementia OR Alzheimer\*).ti | 118520 |
| 17. | Medline | \*"MEMORY DISORDERS"/ | 14761 |
| 18. | Medline | \*"ALZHEIMER DISEASE"/ OR \*DEMENTIA/ OR \*"DEMENTIA, VASCULAR"/ | 118349 |
| 19. | Medline | (15 OR 16 OR 17 OR 18) | 181650 |
| 20. | Medline | (6 AND 19) | 241 |
| 21. | Medline | 20 [DT FROM 2020] [Document type Review] [Languages English] | 38 |
| 22. | Medline | (risk).ti | 480755 |
| 23. | Medline | \*"RISK FACTORS"/ | 1169 |
| 24. | Medline | (22 OR 23) | 481273 |
| 25. | Medline | (20 AND 24) | 9 |

**Disclaimer**  
We hope that you find the evidence search service useful. Whilst care has been taken in the selection of the materials included in this evidence search, the Library and Knowledge Service is not responsible for the content or the accuracy of the enclosed research information. Accordingly, whilst every endeavour has been undertaken to execute a comprehensive search of the literature, the Library and Knowledge Service is not and will not be held responsible or liable for any omissions to pertinent research information not included as part of the results of the enclosed evidence search. Users are welcome to discuss the evidence search findings with the librarian responsible for executing the search. We welcome suggestions on additional search strategies / use of other information resources for further exploration. You must not use the results of this search for commercial purposes. Any usage or reproduction of the search output should acknowledge the Library and Knowledge Service that produced it.