BMJ Open Consequences of loneliness/isolation and visitation restrictions on the mood of long-term care residents without severe dementia pre-COVID-19 and during COVID-19: a scoping review

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ABSTRACT

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Correspondence to Dr Reem T Mulla; rmulla@uwaterloo.ca **Background** Mental health disorders are common among residents of long-term care (LTC). Despite depression being the most common type of mental illness, it is often undiagnosed in LTC. Due to its prevalence, chronicity and associated morbidity, depression poses a considerable service use burden. The COVID-19 pandemic has brought needed attention to the mental health challenges faced by older adults in LTC.

Objectives To explore the effects of isolation on the mood of LTC residents and compare between both the pre-COVID-19 and COVID-19 periods.

Design A scoping review.

Methods PubMed, CINAHL, PsycINFO, SCOPUS, Google Scholar and medRxiv were searched for studies that met the eligibility criteria: (1) articles assessing mood or mental health status of LTC residents; (2) mood disturbance resulting from visitation restrictions/isolation or loneliness; (3) residents were without severe dementia or moderate/ severe cognitive impairment and (4) studies were available in English. Studies were excluded if their entire sample was residents with severe cognitive impairment or severe dementia. A total of 31 studies were included in this review. The total number of articles retrieved from the databases searched was 3652 articles, of which 409 duplicates were removed. 3242 article titles and abstracts were screened for eligibility, of which 3063 were excluded. The remaining 180 full-text studies were reviewed for eligibility, where an additional 149 studies were excluded. Data were then extracted from all full-length pieces for analysis, and findings were summarised.

Results The review identified contradictory views with a diversity of findings highlighting the complexity of factors influencing residents' mood during a global health crisis such as that of COVID-19. Studies highlighted the importance of quality interactions with others for the well-being of LTC residents. Significant correlations were found between social isolation, loneliness and depression. During COVID-19, visitation restrictions led to increased loneliness, depression and mood problems, especially among residents without cognitive impairment. However, some studies reported no significant adverse effects or even a decrease in depression symptoms during COVID-19

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ A thorough search of the literature was conducted with the aid of a skilled librarian.
- ⇒ Two individuals evaluated and screened the literature independently, following the framework established by Arksey and O'Malley (2005), Levac, Colquhoun and O'Brien's (2010) suggestions and the Joanna Briggs Institute guidelines.
- ⇒ Articles in languages other than English were excluded, which may have included relevant information to the inquiry.
- ⇒ Studies were included if the entire sample was not severely cognitively impaired or had severe dementia; however, findings are limited by the lack of stratified results for residents who were cognitively intact from these studies.
- ⇒ Only one aspect that might influence mood, which is visitation restrictions, has been explored, while other factors such as staffing shortages and lack of resources not explored by the included studies may have also contributed to the change in mood of long-term care residents.

restrictions, possibly due to implemented strategies to maintain social engagement.

Conclusion The COVID-19 pandemic had a substantial impact on LTC homes, influencing the physical and mental well-being of residents. This highlighted pre-existing challenges in the LTC system, emphasising the importance of comprehensive strategies to safeguard resident mental health. It is important to combine measures to ensure both physical safety and mental well-being.

INTRODUCTION

The global burden of mental illness was estimated to account for 32.4% of years lived with disability (YLD) between 2000-2014 and 14.6% in 2019.^{1 2} In Canada, mental disorders were among the leading causes of all-age disability-adjusted life-years (DALYs), which, together with substance use disorders, accounted for 14.5% of DALYs in 2016.³ Mental health disorders are particularly common among residents of long-term care (LTC) homes,⁴⁵ affecting between 27%⁶ and 40% of all LTC residents in Canada.⁷

It is reported that about 40% of older adults residing in LTC in Ontario require psychiatric services,^{8 9} yet fewer than 5% actually receive such care.⁹ Depression is the most common type of mental illness that affects people irrespective of race, age and activities of daily living performance.¹⁰ However, among LTC residents, depression is underdiagnosed due to resident communication difficulties, cognitive impairment and a lack of staff mental health training.¹¹⁻¹³

In Canada, around 21% of residents are admitted to LTC homes with depressive symptoms that worsen over time.¹⁴ Due to its prevalence, chronicity and associated morbidity, depression poses a considerable burden compared with other mental illnesses when it comes to service use.^{15 16} Depression not only affects the quality of life of individuals but has also been shown to be a leading cause of disability and excess mortality in Canada.^{16 17}

COVID-19 and mental health

The COVID-19 pandemic has brought needed attention to the mental health challenges faced by older adults, particularly in LTC homes. These challenges are attributed not only to the vulnerability of residents, given the prevalence of frailty and comorbidities, but also to the scarcity of essential resources. Staffing levels were an important resource limitation, but a shortage of personal protective equipment (PPE)^{18 19} might have also contributed to fear of contracting the infection, resulting in increased anxiety and stress. Further, LTC homes are challenging environments that place considerable stress on staff members, families and residents.¹⁸ The high demands on staff, the emotional burden on families and the complex needs of residents collectively contribute to a challenging and stressful atmosphere for all parties involved. This stress was amplified by many factors, including the effects of isolation and restriction measures throughout the pandemic. Under the most severe conditions of COVID-19, Estabrooks et al described what happened to the mental health of residents of LTC homes as 'mental and emotional suffering'.⁹

At the start of the pandemic, many Canadian provinces sought to safeguard the well-being of LTC residents and staff by imposing limitations on visitor access. These visitation restrictions created social disconnectedness, which has been associated with adverse health, psychological and social outcomes among residents.^{18 20 21} These restrictions have since been removed; however, it is important to understand their impact to inform future decisions should events similar to the COVID-19 pandemic occur again.

The expected effects of isolation, including worsening depression, were a concern to many in Canada when restriction measures were mandated during the first wave of the COVID-19 pandemic.^{18 21} In the USA, there was

a 15% increase in depressive symptoms among LTC residents during the first wave.²² However, other studies found that the pandemic had no effect on mental health and mood disturbance.²³ Therefore, the available evidence on the mental health effects of the pandemic in LTC settings lacks a clear consensus.

Given that most mental health research has focused on community-based settings rather than LTC facilities,²⁴ few studies have models of new incidence of mood or mood transitions in LTC due to COVID-19 restrictions.²³ This scoping review provides an overview of the consequences of isolation and loneliness on the mood of LTC residents pre-COVID-19 and during the pandemic to better understand the effect of COVID-19 restriction measures on mood disturbance in this population.

In our scoping review, we defined mood as the presence of depressive symptoms rather than a clinical diagnosis of depression due to the lack of a distinct definition of mood in the literature and the absence of a standardised measure. The presence of depressed mood could be due to the presence of some triggering factors, and in this study, these factors included isolation/loneliness pre-pandemic and restriction measures during the pandemic.^{25,26}

METHODS

Researchers have investigated the effects of COVID-19 restrictions on the general population as well as vulnerable groups. However, few studies have explored the impact of visitors' restrictions on the mood of residents in LTC. As such, we aimed to fill this gap using a scoping review to characterise what is known and unknown from previous studies.²⁷ Our study protocol was registered on the Open Science Framework on 26 October 2023 (available at https://osf.io/qu93s/?view_only=6faf85f3 e4fe41dda9f3680f8e24db44). Although the title differs slightly from our publication, we did not deviate from the protocol.

Research questions

The purpose of this study was to explore the effects of isolation on the mood of LTC residents and compare between both the pre-COVID-19 and COVID-19 periods. To do so, we aimed to answer the following two questions:

- 1. What are the effects of family or friends' visitations or loneliness on the mood of residents of LTC homes?
- 2. What are the effects of COVID-19 restrictions on the mood of LTC residents?

Search strategy

Our main approach adhered largely to the scoping review framework established by Arksey and O'Malley,²⁷ as well as Levac, Colquhoun and O'Brien's²⁸ suggestions. The Joanna Briggs Institute guidelines were also followed to (1) develop the research question; (2) identify relevant studies; (3) select studies that meet inclusion criteria; (4) chart data (extraction, analysis and data presentation) and (5) summarise and analyse the results.²⁹ A deadline

Table T Main concepts and keywords					
Concepts	Older adults 65+	Isolation	Long-term care homes	Mood disturbances	
Keywords	Aged Seniors Older adults Older Elderly	Restrictions Restrictive measures Loneliness Visits Visitations Isolation	Long-term care Long-term care facilities Long-term care homes Nursing homes Residential facilities	Depression Depressive symptoms Depressive Mood Mood disturbance	

Table 1 Main concepts and keywords

of 22 November 2023 was set for the inclusion of new studies for this review.

Identifying potentially relevant studies

A multistep literature search was performed by two researchers (RTM and BK) in 2023, where four academic literature databases were searched for peer-reviewed articles: PubMed, CINAHL, PsycINFO and SCOPUS. Two databases were also searched for grey literature: Google Scholar and medRxiv (preprint server for Health Sciences). For additional references, retrieved articles were manually searched for citations not identified in the searched databases. All identified articles were uploaded into the Covidence systematic review management software for screening procedures.

The search strategy for this review, inclusive of relevant terms and key constructs, was developed in consultation with the School of Public Health Sciences, Kinesiology and Health Sciences liaison librarian (JS) at the University of Waterloo, to capture the articles related to our research questions (table 1). Since the search string for PubMed yielded the largest number of relevant articles (online supplemental material, pages i–ii), this search strategy was also applied to CINAHL, PsycINFO and SCOPUS, but was modified for use as needed to accommodate the different database search engines.

We decided not to include the term 'lockdown' in our search strategy because LTC facilities were not consistently under lockdown during the various pre-COVID-19 and COVID-19 period waves. However, residents were still isolated due to the visitation restrictions imposed on different facilities. Instead, we focused on terms that accurately reflected the isolation experienced by residents, both during the pandemic and in the period before COVID-19, to capture the full extent of loneliness and isolation.

Study selection and inclusion criteria

Studies covering the period between 2010 and 2023 were kept in this review if they met the following eligibility criteria: (1) assessed the mood or mental health status of residents of LTC homes 65+years; (2) mood disturbance was a consequence of loneliness or restrictions on family and friend visitations; (3) residents were cognitively intact, with no moderate or severe cognitive impairment or dementia; and (4) studies were available in the English language. We chose to only include residents who were cognitively intact because we included

articles that measured self-reported depressive symptoms. Thus, we wanted to capture a true representation of resident mental health status without the confounding effects of cognitive impairment. Moreover, studies were excluded during the title, abstract and full-text review if they (1) were review articles or controlled clinical trials; (2) assessed the implementation of an intervention to alleviate depressive symptoms from isolation/loneliness; (3) the entire sample was residents with severe cognitive impairment or severe dementia; or (4) they assessed the mood of residents using a proxy (ie, informal caregiver responding on behalf of the residents). While we acknowledge that LTC homes have an overall prevalence of dementia of 53% (CI 46 to 59%; p<0.01),³⁰ studies were included if the entire sample was not severely cognitively impaired or had severe dementia. We recognise the limitation that these studies did not stratify and provide results separately.

Charting the data

Extracting data

The template from the Covidence systematic review management software was used to guide the extraction process. The extraction was carried out by one author (RTM) where both qualitative and quantitative details were extracted. The quality of included studies was not assessed as the goal of this review was to map existing studies. However, study designs, sample sizes and sampling strategies were reported as these affect evidence quality, result replicability and generalisability.

Collating, summarising and reporting results

The findings of this scoping review are organised and presented in a tabular format for a visual representation (online supplemental e-Table I–III). A descriptive narrative summary has also been provided to highlight key issues, which are presented thematically. This approach allows for a comprehensive understanding of the reviewed material, combining both a visual overview and a detailed narrative exploration of the identified themes.

Patient and public involvement

None.



Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram for article selection.

RESULTS

Search and article selection

This scoping review retrieved a total of 3652 articles from four academic literature databases and those used to search grey literature. A total of 409 duplicates were removed, and 3,242 article titles and abstracts were screened independently by two authors (RTM and BK) for eligibility. Of those, 3063 were deemed to be irrelevant and thus were excluded. The remaining 180 full-text studies were reviewed for eligibility, where an additional 149 studies were excluded as they did not meet the inclusion criteria. A total of 31 studies (figure 1) covering both the pre-COVID-19 and COVID-19 periods were included in this review.

Study characteristics

The majority of included articles in this scoping review were quantitative in nature (n=23, 74.2%),²² ²³ ^{31–51} including one PhD thesis,³⁸ one pilot study,³⁹ one research letter (3.2%)⁵⁰ and one mixed-methods study (3.2%) which was used for its quantitative findings because the focus group discussions did not meet our inclusion criteria.⁵¹ There were five qualitative studies (16.1%),²¹ ^{52–55} one book chapter (3.2%),⁵⁶ one letter to the editor (3.2%)¹⁹ and one report (3.2%)⁹ that were also included (figure 2).

Most of the included studies were conducted in the USA (n=6, 20.0%),^{21 22 38 39 48 54} followed by Spain (n=4, 13.3%),^{34 43 45 52} and then China (n=3, 10.0%).^{32 36 55} A total of four articles were identified from



Figure 2 Types of articles included in the scoping review.

Canada, including two studies related to our research question (6.5%),^{23 49} one report $(3.2\%)^9$ and one book chapter (3.2%).⁵⁶ All other countries had only one study each $(3.2\%)^{19 31 33 37 40-42 44 46 47 51 53}$ (online supplemental e-Figure I).

A mean age of 81.6 years for older adults residing in LTC was calculated from 19 studies only since not all studies reported it, with the widest age range of 58-101.⁵³ On average, the majority of participants were female residents (63.8%), with the largest female sample of $81.8\%^{39}$ and the smallest of 43.7%.³⁷

Figure 3 and online supplemental e-Figure II depict the depression measures used in the included quantitative studies and the distribution of these measures by country. The Geriatric Depression Scale (GDS) was used to measure depressive symptoms in the majority of the quantitative studies (n=11, 52.4%), including the quantitative section from the mixed-method study conducted by Angevaare *et al.*^{32 34 35 38-40 42 43 45-47 51} All the studies included from Spain^{34 43 45 52} used the GDS (online supplemental e-Figure II).

The Depression Rating Scale (DRS) and the Patient Health Questionnaire-9 (PHQ-9) were tied for second place, with each mentioned in three studies



Figure 3 Depression measures used in the included quantitative studies. CES-D, Center for Epidemiological Studies Depression Scale; DRS, Depression Rating Scale; GDS, Geriatric Depression Scale; HADS, Hospital Anxiety and Depression Scale; PHQ-9, Patient Health Questionnaire-9; RSS, Ruminative Responses Scale; SAEP survey, Residents in Sheltered Accommodation for Elderly People Survey.

 $(14.3\%)^{22} = 23 = 33 = 37 = 48 = 51$ (figure 3). The DRS was used in the studies conducted in Canada, New Zealand and the Netherlands²³ = 33 = 51 (online supplemental e-Figure II). Lastly, the PHQ-9 was used in the study conducted in Iran and in two studies conducted in the USA.²² = 37 = 48

Quality of included studies

As mentioned earlier, the quality of the included studies was not assessed. However, it is important to note that there are critical differences in the study designs, sample sizes and sampling strategies that were used which affect the quality of evidence as well as replicability and generalisability of the results. Table 2 highlights the sample size and sampling strategies used for data collection in each study. However, as the aim for qualitative research is to reflect the experience of individuals and not to generalise the results to the larger population,⁵⁷ only the quantitative studies are included.

Only six studies were conducted during the pandemic, all of which compared pre-COVID-19 and COVID-19 time periods.²² ²³ ³³ ⁴⁸ ⁴⁹ ⁵¹ Of those, three studies were nationwide³³ ⁴⁸ ⁴⁹ and the largest two were those of Barnett *et al*, with 997 418 individuals, and Turcotte *et al*, with 508 842 observations from three fiscal years.⁴⁸ ⁴⁹ The exact number of unique individuals in the study by Turcotte *et al* was not possible to identify as an individual could have appeared in multiple years.⁴⁹ Due to the large number of individuals, observations and the nationwide data collection from two periods pre-COVID-19 and during COVID-19, this makes Barnett *et al*'s and Turcotte *et al*'s findings robust and generalisable.⁴⁸ ⁴⁹

Another study that examined 224 LTC homes across Connecticut in the USA was by Levere *et al*, with a large sample size of 29 097 individuals, which also compared the pre-COVID-19 and pandemic period.²² Similarly, a nationwide study in New Zealand by Cheung *et al* examined 25 300 individuals and compared both time periods.³³

Summary of findings

Effects of family/friends' visitations or social interaction on the mood of LTC residents pre-COVID-19

Studies conducted prior to the pandemic highlighted the crucial role of family, staff and fellow resident interactions for positive well-being of persons living in LTC. Cheng et al stated that what matters is the quality of the interaction regardless of the network size.³² Several studies also demonstrated a positive significant correlation between different measures of depression, social isolation and loneliness (Pearson's r=0.30, 0.48, 0.043), respectively,^{36 39 44} and a negative correlation between scores on the GDS and the Multidimensional Scale of Perceived Social Support (Pearson's r=-0.55).⁴² This indicates that greater perceived social support is associated with lower depression scores. These findings align with another study demonstrating significant negative correlations between social engagement and depression.³⁸

Table 2 Sample size and sampling strategies for the quantitative studies					
Author	Year	Sample size	Sampling strategy		
Cheng et al ³²	2010	71	Referred by Nursing home (NH) managers		
Meyer <i>et al</i> ³⁹	2011	33	Potential participants were identified through chart reviews and through recommendations from the directors of nursing at three rural nursing homes.		
Wolff ⁴⁴	2013	1802	Random sampling		
Leedahl ³⁸	2014	140	Two-stage multilevel sampling technique to obtain a stratified random sample of nursing homes, and then a random sample of older adult residents from each of the nursing homes		
Gan <i>et al</i> ³⁶	2015	71	Convenience sampling		
Patra et al ⁴²	2016	170	Undetermined		
Hsiao and Chen ⁴⁷	2017	327	Purposive sampling		
Van der Roset et al ⁵⁰	2020	193	Undetermined		
Arpacıoğlu et al ³¹	2021	150	Random sampling		
Levere et al ²²	2021	29097	Secondary data		
McArthur et al ²³	2021	765	Secondary data		
Nair et al ⁴⁰	2021	224	Undetermined		
Pereiro <i>et al</i> ⁴⁵	2021	98	Undetermined		
Angevaare et al ⁵¹	2022	923	Secondary data		
Barnett <i>et al</i> ⁴⁸	2022	997, 418	Secondary data		
Cheung et al ³³	2022	25300	Secondary data		
Cortés Zamora et al ³⁴	2022	215	Undetermined		
Egeljić-Mihailović et al ³⁵	2022	299	Convenience sampling		
Górski <i>et al</i> ⁴⁶	2022	58	Undetermined		
Pascut et al ⁴¹	2022	282	Undetermined		
Gao et al 37	2023	323	Convenience sampling		
Pereiro et al ⁴³	2023	365	Secondary data		
Turcotte et al ⁴⁹	2023	508842 observations	Secondary data		

The exploration of social contact patterns and frequency among LTC residents revealed that the quality of support and contact provided is more significant than the frequency of visitations and number of visitors in relation to well-being.³² These results aligned with the findings by Hsiao and Chen, which demonstrated that family closeness and the number of visiting family members were not statistically significant predictors of depression.⁴⁷ This was also shown in the study by Wolff, where friendship ties appeared to be more important than visits from family and relatives.⁴⁴

In agreement with the above findings, interactions with care setting residents and civic engagement were found to be protective against depression.⁴⁷ Together, these results point to the positive role of social support and contact in the mental well-being of LTC residents.

Effects of family/friends' visitations or social interaction on the mood of LTC residents during COVID-19

During the COVID-19 pandemic, restriction measures, including visitation restrictions, were implemented to limit the exposure of residents to COVID-19 and reduce

its spread among them. Studies on the mental health of older adults during the initial phases of the pandemic present conflicting findings. The majority of included studies had similar findings for the effect of isolation and visitors' restrictions on the mental health and mood status of older adults residing in LTC. After the initial phase of restrictions (6–10 weeks after visitors' ban), there were reports of heightened levels of loneliness, depression and a notable increase in mood and behavioural problems.⁵⁰ Residents without cognitive impairment appeared to experience the most substantial impact.⁵⁰

The increased prevalence of depression and anxiety symptoms during the pandemic may be attributed to isolation, which could stem from a decline in direct care provision due to staffing shortages or the implementation of policies restricting visitor access.^{22 40 55} Residents felt lonely, sad, experienced bouts of crying, confusion and experienced weight loss and anger.^{21 52-55} In their qualitative study, Kaelan *et al* hypothesised that loss of freedom, stimulation, autonomy and social life experienced by some LTC residents during restriction measures may have

contributed to the residents' feelings during this time period.⁵³ LTC residents displayed significantly higher scores in depression during the COVID-19 restriction period compared with community-dwelling older adults and the pre-COVID-19 period.^{31 33 35 37 40 41 46 48} Further, residents who spent time alone or those with no social participation (95% CI 0.024 to 0.32) or with no activities/ hobbies (95% CI 1.73 to 67.35) showed more depressive symptoms, respectively, than those who were socially engaged.^{31 40 41}

The above findings were also observed in the longitudinal study by Pereiro *et al*, where there was a significantly higher depressive symptomology in the postrestriction than the prerestriction period ($\eta_p^2 = 0.125$).⁴⁵ The pandemic may have altered residents' mood due to the fear of COVID-19, leading many to isolate themselves and subsequently experience feelings of loneliness and depression.^{19 37} Anxiety could have also been triggered among residents of LTC homes by the use of PPE by staff members, where familiar faces became limited, potentially elevating stress levels,⁹ which in turn could affect mood.

All of the above findings differed from the findings of McArthur et al and Angevaare et al.23 51 Results demonstrated a decrease in the percentage of residents showing signs of depression from 19.9% before restrictive measures to 11.5% after restrictions in the former and no clinically significant adverse effects of the restrictions on the mood of residents in Dutch LTC facilities in the latter.^{23 51} Turcotte *et al* were also in agreement with McArthur et al and Angevaare et al's results, where the authors found that in Manitoba and Ontario, a decreased number of residents experienced worsening in depressive symptoms.^{23 49 51} Despite a small but statistically significant rise in self-reported mood symptoms during the restriction measures, the overall effect size was minimal.⁵¹ Further, Pereiro et al and Cortés Zamora et al had similar findings, where the authors stated their results did not show evidence for worsening of the pre-pandemic GDS measures that were associated with restrictions during the pandemic.^{34 43} Some of these homes adopted and implemented strategies to maintain social engagement during the pandemic.²

DISCUSSION

Social engagement and support play important roles in influencing mental well-being. The findings of this scoping review provide insights into the possible associations of visits and social interactions with family and friends on the mood of residents in LTC, both before and during the COVID-19 pandemic. Our scoping review was similar to that of Benzinger *et al*^{$\delta 8$}; however, we focused solely on depressive symptoms related to isolation pre-COVID-19 and due to the restrictions during COVID-19. We also did not focus on other outcomes such as cognitive or functional decline, unlike the Benzinger *et al* review.⁵⁸ Since we did not include any review articles in our scoping review, this study was excluded.

Within our review, it is notable that most of the included quantitative studies are cross-sectional, posing challenges in establishing causal relationships and capturing mood changes over time. These limitations are particularly relevant in the context of the unique preventive measures implemented during the COVID-19 pandemic as these measures were unprecedented and affected all populations. While initially constituting a potential shock, individuals have shown resilience and an inherent capacity to adapt to such novel circumstances. Understanding the nuanced dynamics of these effects over time is critical, especially in the context of a pandemic like COVID-19 where the nature of preventive measures differs significantly from routine experiences.

Prior to the pandemic, research consistently emphasised the important role of social interactions for the well-being of LTC residents. Neither the government nor LTC homes were prepared for such a pandemic as that of COVID-19. The restrictions mandated have resulted in undesired consequences among residents of LTC. While it was important to mandate these safety measures, the absence of comprehensive, personcentred care and lack of consideration for the residents' mental needs led to unintended consequences,⁵⁹ including social isolation that negatively affected mood and other mental health aspects like increasing anxiety of residents.

It was not until the summer of 2020 when the special task force suggested in their report to the chief science advisor of Canada that "a humane and compassionate approach with LTC residents, their families, and the staff who care for them" should be adopted.⁵⁹ We believe that findings from research prior to the pandemic could have been used to inform approaches on balancing the risks of physical health and mental health associated with restrictions in visiting patterns. Most included articles in our review focused on the effects of visitation restrictions on the mental health of LTC residents during the pandemic; however, those restrictions may not have been *solely* responsible for the changes in mood or depressive symptoms at that time.

Many other factors may have contributed to the mental health disturbances that occurred, including staff short-ages, use of external agency staff, limited staff education about geriatric mental health and reduced presence by medical directors.^{18,56} In addition to constraints on recreation therapy and other activity programmes, functional decline, restrictions on movement within facilities, changes in dining experiences due to infection control protocols, stress among staff members, reduced volunteer involvement and poor access to mental health services for those residing in LTC homes also occurred.^{18,56} Uncertainty about the risks and concerns for the well-being of family members outside of the home were among the other factors that could have affected the mood of residents of LTC homes.⁵⁵

The noted variation in findings could be attributed to methodological differences between studies, including varied measures of depression or depressive symptoms, sample size and representativeness, consideration of structure and process indicators (eg, staffing patterns), and timing of the observation during different waves of the pandemic. During the pandemic, numerous homes successfully implemented measures to alleviate these challenges, which might have also contributed to the variation in findings.⁵⁶ Hence, the adverse effects associated with the pandemic may not have been uniformly distributed across all homes.

The diversity of findings underscores the complexity of factors influencing residents' mood during a global health crisis. It suggests a need for a more nuanced understanding of the interplay between social interactions, pandemic-induced restrictions and individual coping mechanisms. It also highlights the need for a standardised measure of depressive symptoms globally to limit inconsistencies arising from using different measures. Future research should explore these dynamics further to inform targeted interventions and support systems for LTC residents to maintain their mental well-being during unprecedented times.

Implications and future directions

A global pandemic like COVID-19 forces difficult decisions where navigating challenges involves striking a delicate balance between mitigating risks to physical health and addressing the impact on mental wellbeing. The experience of this pandemic highlights the need for future approaches to adopt a nuanced perspective. While safeguarding physical health remains paramount, it is important to consider and minimise potential harm to mental health. A balanced approach that recognises the interconnectedness of these two aspects is required.

Additionally, interventions aimed at mitigating the mental health impact of restriction measures should be explored, including innovative approaches to facilitate social connections while adhering to safety measures such as using effective communication, ^{51 55 56} personalisation of PPE and training of staff on empathy and compassion. Longitudinal studies are needed to understand the sustained effects of the pandemic on LTC residents' mental well-being and inform targeted interventions that promote resilience in the face of future challenges.

Limitations

Our scoping review has some limitations. We excluded articles in languages other than English which may have included relevant information to our inquiry. Additionally, while we included studies where the entire sample was not severely cognitively impaired or had severe dementia, the findings are limited by the absence of stratified results for cognitively intact residents. Further, we have decided to understand only one aspect that might influence mood, which is visitation restrictions. However, other factors such as staffing shortages and lack of resources not explored by the included studies may have also contributed to the change in mood of LTC residents. Exploring additional factors would have helped us better understand how mood is influenced and identify promising interventions to improve the mental health and well-being of older adults in these settings.

CONCLUSION

The COVID-19 pandemic has had a substantial impact on LTC homes, significantly influencing the physical and mental well-being of residents. The increased vulnerability of older adults, along with essential preventive and infection control measures, has led to a challenging environment in these care facilities. The COVID-19 pandemic highlighted pre-existing challenges in the LTC system, emphasising the importance of comprehensive strategies to safeguard the mental health of LTC residents. It is important to plan in a way that combines measures ensuring both physical safety and mental well-being, acknowledging the intricate relationship between infectious disease control and psychological health.

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Contributors RTM and BK developed the study design and screened titles and abstracts. RTM performed the literature review, carried out the extraction and wrote the manuscript. All authors provided critical feedback on the manuscript. RTM is responsible for the overall content of this article as a guarantor.

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REFERENCES

- Institute for Health Metrics and Evaluation. The global burden of disease: gbd reults: institute for health metrics and evaluation seattle. WA, 2020.
- 2 Vigo D, Thornicroft G, Atun R. Estimating the true global burden of mental illness. *Lancet Psychiatry* 2016;3:171–8.
- 3 Lang JJ, Alam S, Cahill LE, et al. Global Burden of Disease Study trends for Canada from 1990 to 2016. CMAJ 2018;190:E1296–304.
- 4 Chau R, Kissane DW, Davison TE. Risk Factors for Depression in Long-Term Care: A Systematic Review. *Clin Gerontol* 2019;42:224–37.
- 5 Seitz D, Purandare N, Conn D. Prevalence of psychiatric disorders among older adults in long-term care homes: a systematic review. *Int Psychogeriatr* 2010;22:1025–39.
- 6 Hoben M, Heninger A, Holroyd-Leduc J, et al. Depressive symptoms in long term care facilities in Western Canada: a cross sectional study. BMC Geriatr 2019;19:335.
- 7 Kehyayan V, Chen J, Hirdes JP. Profile of Residents with Mental Disorders in Canadian Long-Term Care Facilities: A Cross-Sectional Study. *Journal of Long Term Care* 2021;154–66.
- 8 Perlman C, Kirkham J, Velkers C, et al. Access to Psychiatrist Services for Older Adults in Long-Term Care: A Population-Based Study. J Am Med Dir Assoc 2019;20:610–6.
- 9 Estabrooks C, Straus S, Flood C, *et al.* Restoring Trust: COVID-19 and the Future of Long-Term Care. Ottawa: Royal Society of Canada, 2020.
- 10 National Institute of Mental Health. Depression.2021:1-8.
- 11 Hirdes JP, Ikegami N, Jónsson PV, et al. Cross-National Comparisons of Antidepressant Use Among Institutionalized Older Persons Based on the Minimum Data Set (MDS). Can J Aging 2000;19:18–37.
- 12 Huang Y, Carpenter I. Identifying elderly depression using the Depression Rating Scale as part of comprehensive standardised care assessment in nursing homes. *Aging Ment Health* 2011;15:1045–51.
- 13 Szczerbińska K, Hirdes JP, Zyczkowska J. Good news and bad news: depressive symptoms decline and undertreatment increases with age in home care and institutional settings. *Am J Geriatr Psychiatry* 2012;20:1045–56.
- 14 Canadian institute for health information. Profile of residents in residential and hospital-based continuing care, 2020–2021. 2021.
- 15 Centers for Disease Control Prevention. Long-Term Care Providers and Services Users in the United States: Data from the National Study of Long-Term Care Providers, 2013–2014. Hyattsville, MD: US National Center for Health Statistics, 2016.
- 16 Tanner J-A, Hensel J, Davies PE, et al. Economic Burden of Depression and Associated Resource Use in Manitoba, Canada. Can J Psychiatry 2020;65:338–46.
- 17 Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet Psychiatry* 2022;9:137–50.
- 18 Checkland C, Benjamin S, Bruneau M-A, et al. Position Statement for Mental Health Care in Long-Term Care During COVID-19. Can Geriatr J 2021;24:367–72.
- 19 Chong TWH, Curran E, Ames D, et al. Mental health of older adults during the COVID-19 pandemic: lessons from history to guide our future. Int Psychogeriatr 2020;32:1249–50.
- 20 Wister A, Li L, Best JR, et al. Multimorbidity, COVID-19 and Mental Health: Canadian Longitudinal Study on Aging (CLSA) Longitudinal Analyses. *Clin Gerontol* 2023;46:729–44.
- 21 Montgomery A, Slocum S, Stanik C. Experiences of nursing home residents during the pandemic. Altarum Special Report 2020;1–46.
- 22 Levere M, Rowan P, Wysocki A. The Adverse Effects of the COVID-19 Pandemic on Nursing Home Resident Well-Being. *J Am Med Dir Assoc* 2021;22:948–54.

- 23 McArthur C, Saari M, Heckman GA, et al. Evaluating the Effect of COVID-19 Pandemic Lockdown on Long-Term Care Residents' Mental Health: A Data-Driven Approach in New Brunswick. J Am Med Dir Assoc 2021;22:187–92.
- 24 Creighton AS, Davison TE, Kissane DW. The Factors Associated With Anxiety Symptom Severity in Older Adults Living in Nursing Homes and Other Residential Aged Care Facilities. J Aging Health 2019;31:1235–58.
- 25 Hirdes JP, Morris JN, Perlman CM, et al. Mood Disturbances Across the Continuum of Care Based on Self-Report and Clinician Rated Measures in the interRAI Suite of Assessment Instruments. Front Psychiatry 2022;13.
- 26 Betini GS, Hirdes JP, Adekpedjou R, et al. Longitudinal Trends and Risk Factors for Depressed Mood Among Canadian Adults During the First Wave of COVID-19. Front Psychiatry 2021;12:666261.
- 27 Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
- 28 Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
- 29 The Joanna Briggs Institute. The joanna briggs institute reviewers' manual 2015: methodology for jbi scoping reviews. 2015.
- 30 Fagundes DF, Costa MT, Álves BB da S, et al. Prevalence of dementia in long-term care institutions: a meta-analysis. J bras psiquiatr 2021;70:59–67.
- 31 Arpacioğlu S, Yalçın M, Türkmenoğlu F, et al. Mental health and factors related to life satisfaction in nursing home and communitydwelling older adults during COVID-19 pandemic in Turkey. *Psychogeriatrics* 2021;21:881–91.
- 32 Cheng S-T, Lee CKL, Chow P-Y. Social support and psychological well-being of nursing home residents in Hong Kong. *Int Psychogeriatr* 2010;22:1185–90.
- 33 Cheung G, Bala S, Lyndon M, et al. Impact of the first wave of COVID-19 on the health and psychosocial well-being of Māori, Pacific Peoples and New Zealand Europeans living in aged residential care. Australas J Ageing 2022;41:293–300.
- 34 Cortés Zamora EB, Mas Romero M, Tabernero Sahuquillo MT, et al. Psychological and Functional Impact of COVID-19 in Long-Term Care Facilities: The COVID-A Study. Am J Geriatr Psychiatry 2022;30:431–43.
- 35 Egeljić-Mihailović N, Brkić-Jovanović N, Krstić T, et al. Social participation and depressive symptoms among older adults during the Covid-19 pandemic in Serbia: A cross-sectional study. Geriatr Nurs (Lond) 2022;44:8–14.
- 36 Gan P, Xie Y, Duan W, et al. Rumination and Loneliness Independently Predict Six-Month Later Depression Symptoms among Chinese Elderly in Nursing Homes. PLoS ONE 2015;10:e0137176.
- 37 Gao P, Mosazadeh H, Nazari N. The Buffering Role of Selfcompassion in the Association Between Loneliness with Depressive Symptoms: A Cross-Sectional Survey Study Among Older Adults Living in Residential Care Homes During COVID-19. Int J Ment Health Addict 2023;2023:1–21.
- 38 Leedahl SN. Older Adults in Nursing Homes: Assessing Relationships between Multiple Constructs of Social Integration, Facility Characteristics, and Health. ProQuest Information & Learning, 2014.
- 39 Meyer D, Marx T, Ball-Seiter V. Social isolation and telecommunication in the nursing home: A pilot study. *Gerontechnology* 2011;10:51–8.
- 40 Nair P, Gill JS, Sulaiman AH, et al. Mental Health Correlates Among Older Persons Residing in Malaysian Nursing Homes During the COVID-19 Pandemic. Asia Pac J Public Health 2021;33:940–4.
- 41 Pascut S, Feruglio S, Crescentini C, et al. Predictive Factors of Anxiety, Depression, and Health-Related Quality of Life in Community-Dwelling and Institutionalized Elderly during the COVID-19 Pandemic. Int J Environ Res Public Health 2022;19:10913.
- 42 Patra P, Alikari V, Fradelos EC, et al. Assessment of depression in elderly. is perceived social support related? In: A Nursing Home Study. Springer International Publishing, 2016: 139–50.
- 43 Pereiro AX, Leiva D, Galvañ A, et al. Psychological and functional impacts associated with restrictions in long-term care facilities (LTCF) due to the COVID-19 pandemic: A multicentre study. Aging Ment Health 2023;27:1544–51.
- 44 Wolff FC. Well-Being of Elderly People Living in Nursing Homes: The Benefits of Making Friends. *Kyklos (Oxford*) 2013;66:153–71.
- 45 Pereiro AX, Dosil-Díaz C, Mouriz-Corbelle R, et al. Impact of the COVID-19 Lockdown on a Long-Term Care Facility: The Role of Social Contact. Brain Sci 2021;11:986.
- 46 Górski M, Garbicz J, Buczkowska M, et al. Depressive disorders among long-term care residents in the face of isolation due to COVID-19 pandemic. *Psychiatr Pol* 2022;56:101–14.

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- 47 Hsiao Y-C, Chen C-Y. Exploring Individual, Family, and Extrafamilial Factors Associated With Depression Among Elderly Residents of Care Settings. *Int J Aging Hum Dev* 2018;86:219–41.
- 48 Barnett ML, Waken RJ, Zheng J, et al. Changes in Health and Quality of Life in US Skilled Nursing Facilities by COVID-19 Exposure Status in 2020. JAMA 2022;328:941–50.
- 49 Turcotte LA, McArthur C, Poss JW, *et al.* Long-Term Care Resident Health and Quality of Care During the COVID-19 Pandemic: A Synthesis Analysis of Canadian Institute for Health Information Data Tables. *Health Serv Insights* 2023;16.
- 50 Van der Roest HG, Prins M, van der Velden C, et al. The Impact of COVID-19 Measures on Well-Being of Older Long-Term Care Facility Residents in the Netherlands. J Am Med Dir Assoc 2020;21:1569–70.
- 51 Angevaare MJ, Joling KJ, Smalbrugge M, et al. The Effects of the 2020 COVID-19 Lockdown on Mood, Behavior, and Social and Cognitive Functioning in Older Long-Term Care Residents. J Am Med Dir Assoc 2022;23:1608.
- 52 Crespo-Martín A, Palacios-Ceña D, Huertas-Hoyas E, et al. Emotional Impact and Perception of Support in Nursing Home Residents during the COVID-19 Lockdown: A Qualitative Study. Int J Environ Res Public Health 2022;19:15712.

- 53 Kaelen S, van den Boogaard W, Pellecchia U, *et al.* How to bring residents' psychosocial well-being to the heart of the fight against Covid-19 in Belgian nursing homes-A qualitative study. *PLoS ONE* 2021;16:e0249098.
- 54 Raciti A, Chang Y-P. Nursing Home Residents' Experiences During the COVID-19 Pandemic. J Gerontol Nurs 2023;49:27–32.
- 55 Wu S, Xiao LD, Nan J, *et al.* Nursing Home Residents' Perceptions of Challenges and Coping Strategies during COVID-19 Pandemic in China. *Int J Environ Res Public Health* 2023;20:1485.
- 56 McArthur CT, Mulla R, Turcotte LA. Mental health and quality of life in long-term care during the pandemic. Horney JA, ed. COVID-19, Frontline Responders and Mental Health: A Playbook for Delivering Resilient Public Health Systems Post-Pandemic. Emerald Publishing Limited, 2023: 97–117.
- 57 Austin Z, Sutton J. Qualitative research: getting started. *Can J Hosp Pharm* 2014;67:436–40.
- 58 Benzinger P, Wahl H-W, Bauer JM, et al. Consequences of contact restrictions for long-term care residents during the first months of COVID-19 pandemic: a scoping review. Eur J Ageing 2023;20:39.
- 59 Office of the chief science advisor of canada. Long-term care and covid-19. 2020.