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Loneliness During the COVID-19 Pandemic Among Older Adults With Chronic Conditions

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Abstract

The COVID-19 pandemic may intensify loneliness among older adults with chronic conditions who are at high risk for severe illness, but little is known about factors associated with loneliness during the pandemic. We considered factors linked to loneliness among 701 adults aged 50 and older with chronic conditions from Michigan (82.5%) and 33 other U.S. states. Participants completed an anonymous online survey between May 14 and July 9, 2020. About two-thirds (66.4%) reported moderate to severe loneliness. The fully adjusted regression model revealed that being a person of color, having a spouse or cohabiting partner, and more emotional support were associated with lower levels of loneliness. Higher anxiety symptoms, more worry about COVID-19 infection, and more financial strain because of the pandemic were linked to greater loneliness. These findings inform strategies to support a vulnerable subgroup of older adults during this pandemic and in future public health crises.

Keywords

chronic illness; coronavirus; psychosocial; social distancing; stress

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Introduction

The COVID-19 pandemic has resulted in major challenges for older adults such as social distancing that disrupts daily routines and reduces social contact (Campbell, 2020; Girdhar et al., 2020). In the United States, most people have been advised to stay at home since mid-March 2020 to limit the spread of the virus. Prolonged social distancing may contribute to loneliness (e.g., Girdhar et al., 2020; Van Orden et al., 2020), defined as the perceived discrepancy between one's actual and desired social relationships (Peplau et al., 1979). Loneliness is linked to morbidity and mortality in later life (Cohen-Mansfield et al., 2016). Consequently, it is crucial to understand factors associated with loneliness during the pandemic among older adults.

Older people with chronic conditions may be especially vulnerable to loneliness during the pandemic (Luchetti et al., 2020). These individuals are at high risk of severe illness from COVID-19 (Centers for Disease Control and Prevention, 2020b; Van Orden et al., 2020), and so they may have stronger beliefs about the importance of self-isolation (Callow et al., 2020) and may self-isolate to a greater extent than people without chronic conditions (Campbell, 2020; Emerson, 2020). We currently know little, however, about factors linked to loneliness in the context of COVID-19, including pandemic-related stress and resources. Understanding factors that may confer greater risk or resilience will elucidate approaches to preserve the well-being of a high risk subgroup of older adults. This study considered factors associated with loneliness during the COVID-19 pandemic among adults aged 50 and older with chronic conditions.

Theoretical and Empirical Background

The loneliness model proposed by Hawkley and Cacioppo (2010) holds that feeling lonely intensifies hypervigilance for social threats. The COVID-19 pandemic presents an unprecedented collective social threat that might exacerbate loneliness. For example, social distancing may have reduced both the quality and quantity of contact with friends and relatives. People who feel lonely may then develop negative social expectations that lead them to disconnect from others and report heightened stress and anxiety (Hawkley & Caccioppo, 2010). Building on this framework, stress process models posit that social stress may be mitigated or intensified by background characteristics (e.g., education, health conditions), subjective and objective stressors (e.g., those related to health problems or work), and coping resources such as social support (Pearlin, 1999). Guided by these perspectives, we evaluated known correlates of loneliness outside of pandemic situations along with pandemic-related factors and their independent associations with loneliness during the pandemic including sociodemographic characteristics, health characteristics, pandemic-related stress, and social resources.

Sociodemographic characteristics and loneliness.—Previous studies have found that sociodemographic characteristics are linked to loneliness. For instance, being female has been associated with greater loneliness (Cohen-Mansfield et al., 2016; Luhmann & Hawkley, 2016; Vozikaki et al., 2018). Loneliness also generally increases with age (Kuwert

et al., 2014; Vozikaki et al., 2018). This may particularly be the case during the pandemic due to greater barriers to social contact among older people (Van Orden et al., 2020).

By contrast, more education has been linked to less loneliness (Cohen-Mansfield et al., 2016; Luhmann & Hawkley, 2016; Vozikaki et al., 2018). People with higher education may have more knowledge of safe opportunities for social interaction during the pandemic (e.g., virtual support groups) as well as resources (e.g., laptop, tablet) to engage in those opportunities. Likewise, people who are unemployed (von Soest et al., 2018) or not currently working for any reason including retirement (Luhmann & Hawkley, 2016) are lonelier than those who are employed. During the pandemic, employment may provide a daily routine, social contact, and a collective purpose that combats loneliness.

There may be racial/ethnic differences in loneliness among older adults with chronic conditions. People of color are particularly vulnerable to complications and death from COVID-19 (Centers for Disease Control and Prevention, 2020a). Further, the harmful consequences of social distancing may be more intense among marginalized older people who already experience socioeconomic and health disparities (Campbell, 2020). Research on racial/ethnic differences in loneliness or perceived social isolation is somewhat mixed, with some studies showing that Black and Hispanic older adults have higher levels than non-Hispanic Whites (Hawkley et al., 2008; Miyawaki, 2015) and others suggesting the reverse (Finlay & Kobayashi, 2018; Han et al., 2016). Given the disproportionate risk and impact of COVID-19 on people of color, these individuals may experience greater loneliness than their non-Hispanic White counterparts.

Health characteristics and loneliness.—Poor mental and/or physical health may amplify loneliness because health problems can result in fatigue and mobility challenges that hinder social contact and participation (Cohen-Mansfield et al., 2016). This may be problematic during the COVID-19 pandemic because of difficulty in accessing preventative and essential health care (NORC, 2020).

Previous studies have found that symptoms of anxiety (Barnett et al., 2019; Beutel et al., 2017) and depression (Cohen-Mansfield et al., 2016; Kuwert et al., 2014) are linked to greater loneliness. Similarly, poorer self-rated health, more chronic conditions, and functional disability have been associated with higher perceived loneliness among older adults (Cohen-Mansfield et al., 2016; Kuwert et al., 2014; Luhmann & Hawkley, 2016; von Soest et al., 2018). Pinpointing health concerns with the strongest links to loneliness during the COVID-19 pandemic will help to identify individuals in greatest need of intervention.

Stress and loneliness.—Perceiving more social threats exacerbated by the COVID-19 pandemic may magnify loneliness. The loss of usual routines, worry about infection, and interpersonal and financial problems are all possible sources of stress for older adults (Girdhar et al., 2020). An online survey found that over one-third (36%) of adults aged 60 and older report feeling moderate to a great deal of stress since the pandemic (Emerson, 2020). Moreover, social separation during times of chronic stress may lead to individual and collective trauma reactions (Campbell, 2020) and the reliving of previous trauma (Girdhar et al., 2020). Negative, stressful, or traumatic events (Cohen-Mansfield et al., 2016; Vozikaki et

al., 2018), posttraumatic stress symptoms (Kuwert et al., 2014), and total chronic stress exposure (Hawkley et al., 2008) have all been linked to greater loneliness in later life, highlighting the value of considering the role of pandemic-related stress in shaping loneliness.

Social resources and loneliness.—Social resources may promote resilience among older adults during the COVID-19 pandemic (Van Orden et al., 2020). In general, greater household size is associated with less loneliness (Hawkley et al., 2019; Luhmann, & Hawkley, 2016). People who are married or living with a partner also report less loneliness (Cohen-Mansfield et al., 2016; Kuwert et al., 2014; Luhmann & Hawkley, 2016; von Soest et al., 2018; Vozikaki et al., 2018). The presence of more household members and a spouse or cohabiting partner may attenuate loneliness during the pandemic by providing social support, companionship, and health-related assistance.

Social contact and emotional support also may be important resources in managing loneliness during the pandemic. Older adults who report more contact with relatives and friends have been found to be less lonely (Shiovitz-Ezra & Leitsch, 2010; von Soest et al., 2018). Additionally, emotional support has been associated with less loneliness among older adults (Liu & Rook, 2013), including those who have experienced a stressful life event such as widowhood (Merz & de Jong Gierveld, 2016). Since the pandemic, more frequent contact with individuals outside of one's household and greater emotional support may help to mitigate loneliness.

The Present Study

This study builds on the literature by evaluating factors associated with loneliness in the first 2–4 months of U.S. social distancing recommendations during the COVID-19 pandemic among a sample of adults aged 50 and older with chronic conditions. Understanding how known correlates of loneliness in broader circumstances and pandemic-related factors are independently linked to loneliness during the early months of the pandemic would inform strategies to improve the well-being of a high risk subgroup of older adults. We hypothesized that individuals who were older, women, people of color, less educated, and not working would report greater loneliness. Beyond these links, we predicted that individuals with poorer mental and physical health and more pandemic-related stress would report greater loneliness. Over and above these associations, we predicted that those with more social resources during the pandemic would report less loneliness.

Methods

Participants and Procedures

The sample for this cross-sectional online survey study was recruited between May 14 and July 9, 2020. Participants included 788 individuals. For the recruitment, we used the UMHealthResearch.org opt-in database at the University of Michigan, the Healthier Black Elders Center Participant Resource Pool of African American men and women aged 55 and older in Detroit, Michigan, social media posts, emails shared with the study team's contacts, and word of mouth. Individuals were eligible if they were aged 50 or older, currently lived in

the United States, and reported that they had a current diagnosis of at least one chronic condition (mental or physical). We defined a chronic condition as one lasting 3 months or longer.

We obtained electronic informed consent immediately before the anonymous online survey using the Qualtrics platform. Only subjects who gave informed consent were able to access the survey, which took approximately 20 minutes to complete. Respondents were not compensated for their participation. This study was approved by the Institutional Review Board of the University of Michigan.

We removed 11 individuals who consented to participate but did not respond to any survey questions. Of the 777 participants, we removed 13 who reported that they did not have a diagnosis of any of the chronic conditions listed in the survey and did not have any other mental or physical health problems. Of the remaining 764 participants, we removed 40 with no data on chronic conditions and 23 with missing data on other study variables. The final analytic sample included 701 individuals (M = 64.57 years, SD = 8.84, range = 50 – 94) from Michigan (82.5%) and 33 other U.S. states with complete data. Relative to the 63 individuals who were removed because of missing data, the 701 individuals in this study were less likely to be a person of color (χ^2 (1, N = 761) = 5.16, p = .023) and more likely to have a bachelor's degree or more education (χ^2 (1, N = 761) = 7.31, p = .007) but did not differ on other study variables.

Measures

Loneliness since the pandemic.—Loneliness was measured using an adapted version of the Three-Item Loneliness scale (Hughes et al., 2004). Participants were asked how often since the pandemic they: (a) lack companionship; (b) feel left out; and (c) feel isolated from others (1 = *hardly ever*, 2 = *sometimes*, 3 = *often*). Summed scores were created (α = .86). Similar to prior research (Lasgaard et al., 2016; Polenick et al., 2019), we also categorized individuals as having little or no loneliness (scores of 3 – 4), moderate loneliness (scores of 5 – 6), or severe loneliness (scores of 7 – 9).

Sociodemographic characteristics.—We examined age, gender (1 = *female*, 0 = *male or other*), race/ethnicity (1 = *people of color*, 0 = *non-Hispanic White*), educational attainment (1 = *bachelor's degree or higher*, 0 = *less than a bachelor's degree*), and work status (1 = *currently employed full-time or part-time*, 0 = *not currently employed full-time or part-time*).

Health characteristics.—Anxiety symptoms were measured with an adapted version of the two-item Generalized Anxiety Disorder scale (GAD-2; Kroenke et al., 2007). Participants were asked, since the pandemic, in an average week (a) how often do they feel nervous, anxious, or on edge?, and (b) how often are they not able to stop or control worrying? (0 = *not at all*, 1 = *several days*, 2 = *over half the days*, 3 = *nearly every day*). We calculated summed scores. The Spearman-Brown coefficient was .80. Participants also reported whether a doctor or other care provider has told them they currently have depression (1 = *yes*, 0 = *no*).

Self-rated physical health was measured with one item assessing how participants rate their overall physical health (Merikangas et al., 2020; Ware, 1999). Responses (1 = *excellent*, 2 = *very good*, 3 = *good*, 4 = *fair*, 5 = *poor*) were reverse-coded so that higher values indicated better health. Participants reported whether (1 = *yes*, 0 = *no*) they currently had a physician diagnosis of 21 chronic conditions (see Table 1). We summed the total number of conditions. Functional limitations were assessed from participants' reports of how much they were currently limited in ten activities (1 = *yes*, *limited a lot*, 2 = *yes*, *limited a little*, 3 = *no*, *not limited at all*): vigorous activities; moderate activities; lifting or carrying groceries; climbing several flights of stairs; climbing one flight of stairs; bending, kneeling or stooping; walking more than a mile; walking several blocks; walking one block; bathing or dressing (Ware, 1999). Items were reverse-coded and summed.

Pandemic-related stress.—Subjective measures of stress were adapted from prior research (Merikangas et al., 2020). Participants separately reported the degree to which they worried: (a) they will become infected with COVID-19; and (b) friends or family will become infected with COVID-19 (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite a bit*, 5 = *a great deal*). We averaged the items, and the Spearman-Brown coefficient was .84. Participants also reported the degree to which they or their families have had financial problems created by pandemic-related changes (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite a bit*, 5 = *a great deal*). As an objective measure of stress, participants reported their experience (1 = *yes*, 0 = *no*) of 13 stressors (Merikangas et al., 2020): whether they are an essential worker (e.g., healthcare, delivery/store worker, security); have a household member who is an essential worker; have lost their job or been laid off because of COVID-19; have been suspected of having COVID-19; have had a family member in their household diagnosed with COVID-19; and have had a family member outside their household diagnosed with COVID-19. Participants also reported whether any of the following happened to their family members because of COVID-19: fallen physically ill; hospitalized; put into self-isolation with symptoms (i.e., presumed infection); put into self-quarantine without symptoms (e.g., due to possible exposure); passed away; lost job or been laid off; and had reduced ability to earn money. We summed the total number of stressors.

Social resources.—Household size was measured by summing the number of adults and children currently living with the participant. We assessed the presence of a spouse or cohabiting partner (1 = *currently married/cohabiting with a partner*, 0 = *not currently married/cohabiting with a partner*). Social contact was measured with one item asking how often participants are communicating with people from outside their households since the pandemic (Cawthon et al., 2020). Emotional support was assessed with one item asking participants how often they have received emotional support from family members or friends (e.g., being available to listen to your concerns and talk with you when you are feeling stressed or upset) since the pandemic. Responses for both items (1 = *daily*, 2 = *a few times per week*, 3 = *once a week*, 4 = *a few times per month*, 5 = *once a month*, 6 = *less than once a month*, 7 = *never*) were reverse-coded.

Statistical Analysis

We estimated linear regressions to determine the independent links between multiple factors and perceptions of loneliness since the pandemic. Loneliness was the continuous outcome. For the predictors, we entered sociodemographic characteristics in Step 1, included health characteristics in Step 2, added pandemic-related stress in Step 3, and added social resources in Step 4. Continuous covariates were grand mean centered before the analysis. Models were estimated using SPSS version 27. We examined the variance inflation factor (VIF) for all predictor variables in each model step to assess multicollinearity, with values less than 10 considered to be acceptable (Hair et al., 2010).

Results

Table 1 displays the prevalence of 21 chronic conditions. The most common conditions included arthritis (60.9%), hypertension (46.8%), and hyperlipidemia (43.0%).

Table 2 provides sociodemographic and health characteristics for the sample. On average, participants were in their mid-60s and had three chronic conditions. Most were women, had a bachelor's degree or more education, and lived in Michigan. Almost one in five participants was a person of color. About one-third were currently working.

Table 3 shows scores on study variables assessing pandemic-related stress, social resources, and loneliness during the pandemic. About two-thirds of participants (66.4%) reported moderate levels of loneliness or higher, with more than one-third (34.2%) categorized as having severe loneliness.

Factors Linked to Loneliness Among Older Adults With Chronic Conditions

The results from the linear regressions examining associations between multiple factors and loneliness since the pandemic are shown in Table 4. Each successive model step explained a significant amount of additional variance in loneliness, with the fully adjusted model accounting for almost one-third (29.9%) of the total variance. Across model steps, the VIF for the predictor variables ranged from 1.03 to 1.75, which indicates that multicollinearity was not a major concern.

Sociodemographic characteristics.—In Step 1, older age ($B = -.03$, $\beta = -.11$, $p = .009$, 95% CI:[−.05, −.01]), being a person of color ($B = -.50$, $\beta = -.09$, $p = .015$, 95% CI: [−.91, −.10]), and currently working part-time or full-time ($B = -.57$, $\beta = -.13$, $p = .001$, 95% CI:[−.92, −.22]) were significantly associated with lower levels of loneliness. This association remained significant for being a person of color even after accounting for health characteristics (Step 2), pandemic-related stress (Step 3), and social resources (Step 4).

Health characteristics.—Step 2 shows that greater anxiety symptoms since the COVID-19 pandemic ($B = .46$, $\beta = .40$, $p < .001$, 95% CI:[.37, .54]) and more functional limitations ($B = .03$, $\beta = .09$, $p = .047$, 95% CI:[.00, .07]) were significantly linked to higher levels of loneliness. The link remained significant for anxiety symptoms when including pandemic-related stress (Step 3) and social resources (Step 4).

Pandemic-related stress.—As shown in Step 3, more worry about COVID-19 infection (B = .23, β = .11, p = .003, 95% CI:[.08, .39]) and greater financial strain (B = .25, β = .14, p < .001, 95% CI:[.12, .37]) were significantly linked to greater loneliness. Both associations remained significant when adjusting for social resources (Step 4).

Social resources.—Step 4 revealed that having a spouse or cohabiting partner (B = −.63, β = −.15, p < .001, 95% CI:[−.94, −.32]) and more frequent emotional support since the pandemic (B = −.09, β = −.08, p = .020, 95% CI:[−.17, −.01]) were significantly linked to lower loneliness.

Discussion

This study expands research on the COVID-19 pandemic by examining factors associated with loneliness among older adults with chronic conditions. As a whole, subjective pandemic-related stress and social resources appear to have particularly strong implications for loneliness during the pandemic, above and beyond known correlates of loneliness outside of a pandemic. Whereas population-based estimates before the pandemic indicate that 28–31% of older adults report moderate levels of loneliness or higher (Hawkley et al., 2019), these levels were reported by two-thirds (66.4%) of participants in this sample. The present findings underscore the need to gain a better understanding of loneliness and its contributing factors among this high risk subgroup during the pandemic.

Counter to our hypothesis, older individuals reported less loneliness. This is consistent with previous research on loneliness or perceived social isolation during the COVID-19 pandemic using broader adult samples in the United States (Birditt et al., 2020; Luchetti et al., 2020), the United Kingdom (Li & Wang, 2020), and Spain (Losada-Baltar et al., 2021). Older individuals have been found to report greater use of acceptance than younger adults in situations that evoke anxiety and sadness (Schirda et al., 2016). As such, older people might be better able to cope with loneliness since the pandemic. Notably, however, this link was reduced to nonsignificance after accounting for health characteristics.

Also counter to our prediction, people of color reported less loneliness since the pandemic. Strikingly, this link remained significant in the fully adjusted model that included health characteristics, pandemic-related stress, and social resources. Similar to research showing that Black Americans tend to report better mental health than do Whites (e.g., Keyes, 2009), this suggests that people of color may have greater resilience to loneliness during the pandemic, despite experiencing disproportionately negative health and social impacts of COVID-19. Black Americans also report less objective social isolation as well as more frequent contact and support exchanges in general (Taylor et al., 2019), which may have persisted and helped to protect against loneliness.

Consistent with our hypothesis and previous research on loneliness during the COVID-19 pandemic (Li & Wang, 2020), employed individuals reported less loneliness; but this association was no longer present after including health characteristics in the model. This indicates that the possible protective benefits of employment among older adults with chronic conditions may be diminished when taking underlying health status into account.

With respect to health characteristics, higher anxiety symptoms and functional limitations were independently associated with greater loneliness. Although functional limitations were no longer associated with loneliness after accounting for pandemic-related stress, anxiety symptoms remained a significant correlate in the fully adjusted model. Hence, feelings of anxiety might be an important clinical focus for older adults with chronic conditions. Indeed, anxiety symptoms during the pandemic may both exacerbate loneliness and contribute to social withdrawal and isolation (Hwang et al., 2020). Somewhat surprisingly, self-reported depression diagnosis was not significantly associated with loneliness since the pandemic when accounting for other factors. This may in part be because the prevalence of depression was high in this sample (34.8%). Another possibility is that loneliness since the pandemic is largely shaped by situation-specific factors (e.g., social distancing) and is therefore less influenced by diagnosed depression. Further, a post hoc analysis revealed that depression was significantly associated with greater loneliness when anxiety symptoms were removed (B = .82, β = .19, p < .001, 95% CI = [0.50, 1.14]), which suggests that feelings of anxiety may partly account for the link between depression and loneliness in the early months of the pandemic.

Regarding subjective stress, people who were more worried about COVID-19 infection and had greater financial strain related to the pandemic reported greater loneliness, even when accounting for social resources. With higher rates of complications and death from COVID-19 among older adults with chronic conditions, worry about infection may be a common risk factor for loneliness. Supporting this point, over one-third (36.3%) of participants were quite a bit or a great deal worried about their own infection and about half (50.5%) were quite a bit or a great deal worried about friend/family infection. Worry about infection and financial problems may contribute to social withdrawal and a sense of alienation that amplifies loneliness.

With regard to social resources, older adults with a spouse or cohabiting partner reported less loneliness since the pandemic, over and above household size. This is in accord with prior studies (Hawkley et al., 2019; Li & Wang, 2020) and highlights the importance of partner relationships and their implications for well-being during the pandemic among older adults with chronic illness. In addition, individuals who received more frequent emotional support since the pandemic reported less loneliness; but social contact since the pandemic was not associated with loneliness. This mirrors previous research suggesting that emotional support and other qualitative aspects of relationships are more vital to loneliness than contact frequency (Cohen-Mansfield et al., 2016; Shiovitz-Ezra & Leitsch, 2010).

Potential Limitations and Future Directions

We acknowledge several limitations. First, we used a self-selected convenience sample, which may introduce bias. Second, participants were primarily women, non-Hispanic White, highly educated, and Michigan residents. As a consequence, the sample is not representative and the findings may not be broadly generalizable to individuals aged 50 and older living with chronic illness in the broader U.S. population. For instance, loneliness and anxiety symptoms, as well as the prevalence of depression may be overestimated or underestimated from the actual distribution. Third, participants needed access to an internet connection and

a computer, tablet, or smartphone to complete the survey; however, older adults without such access may be at higher risk of loneliness. Future studies should survey individuals using other methods (e.g., phone survey) to obtain a more representative picture of loneliness among older adults. Fourth, the cross-sectional analyses did not allow us to determine causal associations. Furthermore, the findings may be specific to 2–4 months after initial social distancing recommendations in the United States. Notwithstanding these limitations, this study sheds light on potential risk and protective factors for loneliness among older adults with chronic conditions that may enhance approaches to maintain their well-being during the current pandemic and in subsequent public health crises.

Future research should explore approaches to build and sustain positive social connections during the pandemic among older people with chronic conditions. For instance, helping them overcome technology barriers to virtual communication (e.g., social media, video calls) may reduce loneliness with ongoing social distancing (Hwang et al., 2020). Adapting interventions and established pre-pandemic activities to online approaches may also be beneficial (Girdhar et al., 2020; Gorenko et al., 2021), perhaps especially for older adults with inadequate emotional support. In the current sample, about one in ten (13.1%) reported receiving emotional support less than once a month or never since the pandemic began, indicating that a substantial proportion of older adults may require intervention to meet their social needs.

It will also be imperative for future research to devise strategies for minimizing anxiety symptoms among older people with chronic illness. The present findings suggest that both general anxiety and worry related to the pandemic should be targeted. Treating existing anxiety that may be exacerbated by the pandemic and providing sources of reliable information about the virus may alleviate worry and rumination (Girdhar et al., 2020; Hwang et al., 2020).

Another important area for future work is to determine characteristics that buffer or intensify the effects of loneliness on well-being among older adults with chronic illness during the pandemic. Identifying potentially modifiable cognitions and behaviors may advance the design of more personalized interventions. As one example, younger subjective age was found to buffer the link between loneliness since the pandemic and psychological distress (Shrira et al., 2020). More nuanced knowledge of individual and social characteristics that elevate or lower the risk of detrimental outcomes related to loneliness would inform targeted strategies to optimize long-term health and well-being.

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Table 1

Prevalence of Chronic Conditions Among Older Adults With Chronic Conditions.

Condition	%
Arthritis	60.9
High blood pressure or hypertension	46.8
Hyperlipidemia or high cholesterol	43.0
Chronic pain condition	34.7
Anxiety disorder	24.7
Asthma	21.8
Osteoporosis	19.5
Diabetes	18.7
Cardiac arrhythmias	11.2
Cancer (all except non-melanoma skin)	10.1
Chronic obstructive pulmonary disease (COPD)	8.1
Coronary artery disease, coronary heart disease, or ischemic heart disease	7.1
Chronic kidney disease	5.4
Bipolar disorder	4.6
Stroke, cerebrovascular disease, or transient ischemic attack	4.0
Congestive heart failure	3.3
Substance use disorder (including drug and alcohol disorders)	2.3
Hepatitis	1.1
Dementia (including Alzheimer's disease and other types)	0.4
Human immunodeficiency virus (HIV)	0.3
Schizophrenia	0.3
Other mental or physical health problems[a]	47.3

Note.

[a]Endorsement of having other current mental or physical health problems not listed in the survey.

N = 701 adults.

Table 2

Sociodemographic and Health Characteristics Among Older Adults With Chronic Conditions.

Variable	*M*	*SD*
Age in years	64.6	8.8
Anxiety symptoms[a]	2.0	1.8
Self-rated physical health[b]	3.2	0.9
Number of chronic conditions[c]	3.3	2.0
Functional limitations[d]	15.9	5.2
	%	
Gender		
Female	73.6	
Male	25.8	
Other	0.6	
Race/ethnicity		
People of color	16.7	
Black or African American	11.7	
Asian	1.6	
American Indian or Alaska Native	1.0	
Pacific Islander	0.0	
Hispanic	1.1	
Other	1.7	
Non-Hispanic White	83.3	
Educational attainment		
Less than high school	0.0	
High school diploma or equivalent	3.7	
Vocational, technical, business, or trade school certificate or diploma	3.3	
Some college but no degree	13.3	
Associate’s degree	8.1	
Bachelor’s degree	30.7	
Master’s, professional, or doctoral degree	40.9	
Currently working part-time or full-time	33.7	
Depression diagnosis	34.8	
Location[e]		
Michigan	82.5	
Wisconsin	2.4	
Massachusetts	2.0	
Other states	13.1	

Note.

[a] Range = 0 – 6, with higher scores indicating greater anxiety.

[b] Range = 1 – 5, with higher scores indicating better health.

[c] Range = 0 – 21.

[d] Range = 10 – 30, with higher scores indicating greater functional limitations.

[e] Included a total of 34 U.S. states and the District of Columbia.

N = 701 adults.

Table 3

Stressors, Social Resources, and Loneliness Since the COVID-19 Pandemic Among Older Adults With Chronic Conditions.

Variable	*M*	*SD*
Worry about COVID-19 infection[a]	3.3	1.0
Financial strain related to the pandemic[b]	1.9	1.1
Total stressors related to the pandemic[c]	1.5	1.6
Household size[d]	1.3	1.2
Social contact since the pandemic[e]	6.2	1.0
Emotional support since the pandemic[f]	5.2	1.8
Loneliness since the pandemic (continuous)[g]	5.8	2.0
	%	
Marital status		
Married	55.2	
Cohabiting	4.0	
Separated	1.4	
Divorced	17.7	
Widowed	9.0	
Single, never married	12.7	
Stressors related to the pandemic		
Essential worker	17.4	
Household member is an essential worker	15.5	
Lost job or laid off from job	6.8	
Suspected of infection	17.5	
Household family member diagnosed	1.6	
Non-household family member diagnosed	9.8	
Family member fallen physically ill	6.4	
Family member hospitalized	4.3	
Family member put into self-isolation (presumed infection)	10.8	
Family member in self-quarantine (possible exposure)	14.8	
Family member passed away	4.4	
Family member lost job or laid off from job	20.8	
Family member reduced ability to earn money	19.7	
Loneliness since the pandemic (categories)		
Little or no loneliness (scores of 3 – 4)	33.5	
Moderate loneliness (scores of 5 – 6)	32.2	
Severe loneliness (scores of 7 – 9)	34.2	

Note. COVID-19 = coronavirus disease 2019.

[a]Range = 1 – 5, with higher scores indicating greater worry.

[b] Range = 1 – 5, with higher scores indicating more financial strain.

[c] Range = 0 – 13.

[d] Total number of people living with the respondent.

[e] Range = 1 – 7, with higher scores indicating more frequent contact.

[f] Range = 1 – 7, with higher scores indicating more frequent received emotional support.

[g] Range = 3 – 9, with higher scores indicating greater loneliness. N = 701 adults.

Table 4

Linear Regressions Examining Predictors of Loneliness Since the COVID-19 Pandemic Among Older Adults With Chronic Conditions.

	Loneliness							
	Step 1		Step 2		Step 3		Step 4	
Parameter	***B***	***SE***	***B***	***SE***	***B***	***SE***	***B***	***SE***
Sociodemographic characteristics								
Age	−.03**	.01	.01	.01	.01	.01	.003	.01
Gender (female)	.31	.18	.02	.16	.01	.16	−.11	.16
Race/ethnicity (person of color)	−.50*	.21	−.46*	.19	−.42*	.18	−.57**	.19
Educational attainment (bachelor's or higher)	−.33	.17	−.22	.16	−.26	.16	−.28	.15
Work status (currently working)	−.57**	.18	−.28	.16	−.18	.16	−.22	.16
Health characteristics								
Anxiety symptoms			.46***	.04	.38***	.05	.38***	.05
Depression			.26	.16	.25	.16	.17	.16
Self-rated physical health			−.12	.10	−.10	.10	−.09	.09
Number of chronic conditions			−.04	.04	−.05	.04	−.05	.04
Functional limitations			.03*	.02	.03	.02	.02	.02
Pandemic-related stress								
Worry about COVID-19 infection					.23**	.08	.24**	.08
Financial strain					.25***	.06	.23***	.06
Total stressors					−.08	.04	−.05	.04
Social resources								
Household size							−.06	.06
Spouse/cohabiting partner							−.63***	.16
Social contact since the pandemic							.05	.07
Emotional support since the pandemic							−.09*	.04
Total R^2	.039		.238		.266		.299	
Change in R^2	.039***		.200***		.027***		.033***	

Note. N = 701 adults.

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* $p < .05$.

** $p < .01$.

*** $p < .001$.