

Older adults' mental health through information and communication support systems: A scoping review.

Udoh Idorenyin^{1*}, Mpofo Elias^{1,2,3}

¹Rehabilitation and Health Services, University of North Texas, Texas, USA

²School of Health Sciences, University of Sydney, NSW, Australia

³School of Community and Human Development, University of Witwatersrand, South Africa.

Abstract

There has been an increased risk of mental health issues among older adults due to COVID-19 pandemic restrictions. The aim of this scoping review is to use emerging evidence to identify the types of information and communication support system needed by older adults above 60 years to support the stability of their mental health during the COVID-19 pandemic. Sixteen studies about information and communication support for mental health of older adults during the COVID-19 pandemic were identified with search from EMBASE, CINAHL, Cochrane Database of Systematic Reviews, JBI Evidence Synthesis, and Epistemonikos. A thematic synthesis of the data revealed that the use of information and communication support systems by older adults can lead to a reduction in social isolation, acquisition of relevant information, improvement in wellbeing and a general balance in mental health. Therefore, information and communication support system should be employed and tailored based on their skill maximum benefits.

Keywords: Mental Health, Information, Communication, Older Adults, COVID-19.

Introduction

The population of older adults is rapidly increasing such that the world population of older adults who are 65 years and above could reach about 1.5 billion by 2050 [1]. Consequently, many older adults may need to enhance their cognitive, mental, social and physical functional abilities for healthy aging. According to the World Health Organization, healthy aging includes physical, social, and mental health functioning tailored to one's inclinations and susceptibility within one's age cohort [2].

COVID-19 is a community infectious disease that affected the pattern in which people interacted in everyday living and had high transmissibility through close contact and physical sharing of items [3, 4]. The rapid transmission of COVID-19 virus during the pandemic, higher mortality rate, self-isolation, social distancing, and quarantine increased the risk of mental health problems [5], and worsened older adults' cognitive, physical, and emotional function [5].

Also, according to the [6], overall mental health wellbeing circumscribes emotional, psychological, and social wellbeing, including self-efficacy, autonomy, and intergenerational competencies, which may differ for other older adults with COVID-19 mitigation [7].

Information and communication support systems which include certified mental health support across the lifespan,

could serve to prevent social isolation and apathy among older adults [8, 9]. Still, the use of communication and information support for older adults to increase liveliness and optimize daily functioning and mental wellbeing are not fully harnessed. Online technologies and digital sources can provide digital information, and facilitate communication, a social support network, and an increased feeling of belonging. However, disparities in access to helpful information and communication support systems exist for older adults [10]. Additionally, quarantine and transportation restraints profoundly restricted the activities of older adults, thereby aggravating challenges for older adults to access mental health services in the wake of COVID-19. Studies show that loneliness, social isolation, social distancing, social disconnectedness, and loneliness are associated with depression and anxiety [2, 4]. Similarly, [11] found that social disconnectedness and isolation predicted increased depression and anxiety symptoms, which are pre-mediators of mental health issues in older adults.

Review of the Literature

Aging and mental health

Epidemiology surveys support that medical illness and physical disabilities are high among older adults [12]. Hence, an accepted description of the burden of mental health issues in old age must consider a variety of symptoms and comorbidities. The risk of mental disorders in older adults is not viewed in like manner [13]. Women are at greater risk for mental disorders

*Correspondence to: Ilara Gnnelli . Department of Neuroscience, Imaging and Clinical Sciences, University of Chieti-Pescara, Italy, E-mail: rialia.gan-unn@ch.it.

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than men, though sex differences diminish at the oldest ages [14]. Additionally, psychologists and other social scientists such as [15, 16] have long conceded the impact of cultural and historical contexts on individual development and variation. Perceived vulnerability among older adults can represent a form of condescending ageism [17]. This uneven influence of age, [5] including social distancing due to COVID-19 exposure, have contributed to the aspersions of older adults and will lead to mental health issues among older adults if they are not supported by information and communication support systems. Older adults see themselves as expendable and this could be detrimental to their physical and mental health as they may delay getting healthcare care, become isolated, or otherwise neglect their self-care and [6] wellbeing [18].

Older adult's mental health wellbeing

Mental health indicators among older adults vary across age cohorts from young-old (60–69) to older-old (80–89) [19]. Notably, they are at increased risk for social isolation and loneliness (Stanford Center on Longevity, 2018) and reduced engagement in information and communication systems [19]. Also, older adults' access to information and effective communication for better health quality may be significantly affected compared to younger adults [12].

Epidemiological research reveals that the global prevalence of mental health issues among older adults 60 years and older is higher than 20% [20]. Among this population, mental health issues account for approximately 17.4% of years lived with disability. Depression (7%) is the most prevalent mental disorder in adults 60 years and older. The occurrence of other common mental health issues for that same age cohort includes anxiety (3.8%) and substance use problems (about 1%), and a quarter of deaths are related to self-harm [20].

Aging and information and communication support systems

The capability to use information and communications support systems is now a necessity to navigate daily living in this "information and technology age" [21]. Older adults' usage and application of information and communication support systems differ across age cohorts. For example, studies confirm that using information and communication support system is not only a marginalized activity amongst older adults but also a highly composite activity according to gender, marital status, educational background, and age (i.e., between "61–70 years" and "71 years and older" age groups). However, older adults can harness various kinds of information and communication support systems for optimal mental health wellbeing. For instance, they can use laptops (for emails and social networks), databases (communication, education, and source of information), social networks (networking with friends), and smartphones (contact and knowledge) [22]. Building and maintaining good social relationships through email or social networking sites could positively impact feelings of social support and connectedness, thereby reducing feelings of loneliness [23–25]. However, there have been reports of lower internet use among older adults [26].

Benefits to older adults arising from the use and application of [27] information and communication support systems during the COVID-19 pandemic include safety for older adults and their healthcare providers, improvement in health service provision, reduction in cost-of-service delivery, and reduction in mortality and morbidity [28]. This can, in turn, contribute to mental health improvements by reducing depression, anxiety, dependency, social isolation, and adverse mood state and positively influence self-esteem, communication with others, cognitive functioning, and quality of life [29]. Using an information and communication support system is one of the best ways for older adults to enhance their social networks [30] and improve their quality of life [31].

Goal of this study

This scoping review was conducted to aggregate the emerging research evidence on information and communication support systems used by older adults during the COVID-19 pandemic and on the mental health benefits from use and engagement with those support systems. Importantly, we sought to examine how older adults' information and communication support systems supported their mental health by age cohort from young-old (60–69) to older-old (80–89). The specific research questions are, how do older adults engage in information and communication support systems and what information and communication support systems do older adults utilize to sustain mental health wellbeing during COVID-19 mitigation strategies? Findings would result in the design of mental health wellbeing interventions for older adults which integrate information and communication support systems. Furthermore, the results support further empirical studies on mental health wellbeing among older adults who may be isolated employing information and communication support systems.

Methods

Research design

A scoping review is designed to encapsulate the emerging evidence on an existing and under-studied fact for detailing the trends to guide future related studies with the benefit of clarification of concepts and study procedures [20]. Additionally, scoping reviews are carried out to provide an overview of the existing evidence despite methodological quality or risk of bias since the studies are exploratory and the data preliminary [32]. Therefore, a scoping review is appropriate for this study for collating and profiling the emerging research evidence on information and communication support systems older adults use to support their mental health during the COVID-19 pandemic [33].

Search procedure

A search of electronic databases: EMBASE, CINAHL, Cochrane Database of Systematic Reviews, JBI Evidence Synthesis, and Epistemonikos was conducted for studies on information and communication support systems by older adults with COVID-19. Table 1 consists of an overview of search procedures, including key topics and searched terms.

Table 1. Overview of the search procedure, topics, and terms.

Topic	Basic search term
Older adults, information, communication, mental health, and COVID-19	Older adults OR elderly OR seniors OR old OR geriatrics AND information support OR information program OR communication OR communication support
Older adults, information, communication, and mental health	Older adults AND mental health OR depression OR anxiety OR isolation OR stress OR resilience OR affect
Older adults, information, communication, mental health, and COVID-19	Older adults AND Coronavirus Disease 2019 (COVID-19) OR coronavirus OR severe acute respiratory syndrome (SARS) OR Severe acute respiratory, AND information and communication support

Eligibility criteria

Inclusion criteria consisted of peer-reviewed empirical studies across the continuum of qualitative studies to quantitative studies. To be included, studies had to be within the past 3 years (December 2019 to October 2022) on information and communication support systems for sustainable mental health in older adults with COVID-19 mitigation and published in English. **Table 2** consist of the eligibility criteria of potential studies for the present scoping review.

Data extraction

Priority was granted to important data qualities of study design (i.e., qualitative, quantitative), participant characteristics (i.e., older adults using information and communication support), interventions (i.e., types of information and communication support systems), and outcomes (mental health sustenance, restoration, or augmentation). Articles for their relevance to the topic and probable link to the inclusion criteria were examined resolving emerging disagreements by consensus.

Study selection

Figure 1 depicts a flow chart of the studies' selection process. The initial database search found 137 pertinent studies, of which twenty-five were duplicates. Further screening of the remaining 112 studies led to excluding 40 publications due to marginal relevance and the retention of 72 documents for additional screening. That process led to the rejection of 20 studies due to inclusion criteria issues. Another screening resulted in the rejection of 5 articles due to the availability of abstracts only. The outcome yielded 15 studies used in the present scoping review. The low number of studies meeting the inclusion criteria comes as no surprise as COVID-19 is a new community-spread virus and attracting behavioral health interest only in the past three years (or since its worldwide spread from December 2019).

Data organization

Data was organized from the articles for review about authors/year, study design, country, target population, information and communication support system, and mental health sustenance outcomes (see **Table 3**). For each study, we considered whether it identifies a gap in the literature to be addressed.

Results

Table 3 presents our findings on the 16 empirical studies included in this scoping review this scoping review adopts the activity theory in explaining how older adults use information and communication support system to support their mental

health during the COVID-19 pandemic. The activity theory provides a “conceptual framework which we can understand the inter-relationship between activities, actions, operations and artefacts, subjects' motives and goals, and aspects of the social, organizational and societal contexts within which these activities are framed” [34]. It also adds to the chronic stress theory especially with older adults as this explains the existing correlation between increased emotional and mental stress, and higher chances of media addiction as regards to social networking, [27] entertainment-related activities and information consumption [35].

By jurisdiction, distributing studies were USA 9/16 = 56.25% (Lyer et al., 2021; [36-40]; Romero et al., 2022; [41, 42] USA and Canada 1/16=6.25% [43]; Spain 1/16=6.25% [44] Israel 1/16=6.25% [45] Brazil 1/16= 6.25% (Nascimento et al., 2020); China 1/16=6.25% [40] Austria 1/ 16 =6.25% [23] and Germany 1/16= 6.25% [46]. All studies reported on the utilization of various information and communication support systems by older adults during the COVID-19 era (online platforms, access to internet, smartphones, **tablets**, computers, smart televisions, virtual assistants, and assistive devices). Four out of sixteen (25%) of the studies reported that older adults experienced improved mental health benefits from information and communications [40 support use during the pandemic [36, 39, 43, 46]. Seven out of the sixteen studies (43.75%) reported that a reduction of social isolation led to improved wellbeing [37-40]; [47] Dura Perez- et al., 2022 and [41]. Five studies (31.25%) reported that older adults had good social engagement, access to information and better communication due to using information and communication support systems [37-42]. Nine of the studies found better quality of life and improved sense of wellbeing through use of information and communication support systems (Lyer et al., 2021; Nascimento et al., 2020; [36-45]. Most of the studies noted there was mental health sustenance and improved cognitive function, and improved mental, social, physical, and emotional health including with interpersonal communications. Also, improvements in physical performance, social networking services, among many other endeavors as coping strategies to mitigate the COVID-19 pandemic were reported [4].

Impact of online and digital platforms on older adults

Older adults used online and digital platforms to positively influence their social connections, communication, information and general wellbeing during the COVID-19 pandemic when mitigation strategies were in effect [36-46].

Table 2. Inclusion and exclusion criteria for each study variable.

Variable	Inclusion Criteria	Exclusion criteria
Study design	Qualitative, randomised controlled trials, quantitative, and peer-reviewed	Single case studies , literature reviews , non-peer-reviewed studies , and gray literature
	Reported on older adult sample specifying the ages	Did not report on ages of older adults samples mention
participants	Covid-19 exposed subjects. Older adults and use of information and communication support system	Non Participation in information and communication support systems use
Intervention	Types of information and communication support systems	No mention of specific leisure and re creation
Analysis	Data analysis by the age of participants	Analysis did not include the age of participants
Outcomes	Mental Health well-being from information and communication support systems	No information on mental health well being and well being use of information and communication support systems

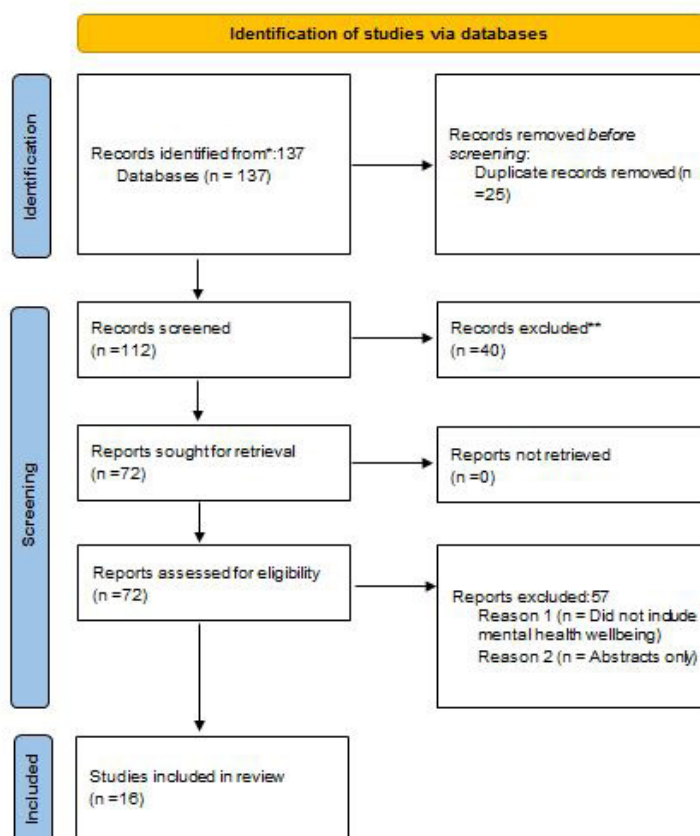


Figure 1. 2020 PRISMA flow of information diagram of search results (Tricco et al., 2018).

Internet based support and communication

Across age cohorts, information [24] and communication support system used during the COVID-19 pandemic included the use of contemporary technology (computer, smartphone, tablet, video calls, messaging apps, video chat, and social media platforms (Facebook, Instagram, Twitter) and phone calls, videoconference [36]; Romero et al., 2022; [39, 40] and use of the internet [45]. In a mixed method study, [40] examined how the pandemic influenced community services for homebound older adults and whether those services could be delivered via internet-based information and communications [48] technology. Results showed that increased services were provided for the physical well-being of homebound older adults than for their psychological and home environment needs. A study by [49] examined how senior

living communities managed COVID-19 by looking at specific factors in their responses to COVID-19 on their websites. Many websites provided detailed vaccination information to encourage people to be vaccinated, while others discussed the impact of social isolation on mental and physical health of their residents with health recommendations through videos. Similarly, another study by [50] which aimed to elucidate the association between the prevalence of contact with friends and relatives through the internet and psychosocial factors (in terms of loneliness, life satisfaction and depressive symptoms) in middle-aged and older adults found that compared to daily users, less frequent users of the internet for contact with friends and relatives reported increased loneliness, lower life satisfaction and more depressive symptoms and that individuals with a greater contact with friends and relatives via internet reported better psychosocial factors.

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Table 3. Summary of findings and data organization.

	Authors and Year	Study design	Country	Population	Information & communication support system	Mental health outcome
1	Curtis et al., 2022	Multiple regression	United States	N=281 Consisting of 155 men, 126 women; Mean age=64.69, SD=7.89	Traditional media (e.g., newspaper and television) and social media (e.g., Twitter and Facebook)	Greater perceived risk of contracting COVID-19, perceived severity of the pandemic (regardless of sex), and greater COVID-19-related anxiety in men (not women). Greater dependency on the media for COVID-19 health-related information was associated with greater COVID-19-related anxiety and perceived risk of contracting the disease
2	Dura Perez - et al., 2022	Retrospective cohort study	Spain	N=151 participants with mild cognitive impairment or mild dementia	Telephone & Television	Better quality of life, increased social connectivity, perceived stress and depression, better cognitive function
3	Hajek & Konig, 2021	Multiple linear regression	Germany	N=3134 individuals an analytical sample	Access to the internet,	Better psychosocial factors were associated with medium education (compared to low education), living with a partner or spouse in the same household (compared to singles), better self-rated health, and favorable COVID-19 factors
4	Klaus et al., 2022	Cross-sectional analysis	United States	N=95 community-dwelling older aged adults (67–87 years)	Mobile phone, digital technology	Higher mental health well-being across age cohorts, maintaining social connections, better communication
5	Liu et al., 2022	Mixed methods	United States	N=63 clients, the mean age was 82 years, 7263 clients, the mean age was 82 years, 72% were women, and about 27% were married	Internet-based information and communications technology	Decreased social isolation, alternative platforms to deliver services, and more services were provided for the physical wellbeing of homebound older adults than for their psychological and home environment needs
6	Liu et al., 2022	Mixed methods	China	N=337 older adults	Social media platforms	Improved response to major public health events and better health care and cognition
7	Lyer et al., 2021	Qualitative analysis	United States	N=62 scheduled appointments, 43 telemedicine visits (69.4%) were conducted. .	Computer, smartphone, tablet, video calls	Greater comfort, sense of satisfaction
8	Mikal & Wurtz, 2021	Qualitative, longitudinal design methods	United States	N=25, the average age of participants was 69 years old, ranging between 65 and 78 years old.	social media account (defined as Facebook, Twitter, and/or Instagram) and home Internet access	Creativity in using Computer-mediated communication for cognitive engagement and entertainment.
9	Mayer et al., 2022	Cross-sectional analysis	Austria	N=39, older adults (11 [28%] male; 28 [72%] female) with a mean age of 74.3 (SD 7.3) years	Communication and information messaging system	Overcoming isolation, better emotional health, and quality of life
	Mota Romero et al., 2022	Qualitative descriptive study using thematic analysis.	United States	N=20 semi-structured interviews were conducted from March to November 2020 with professionals from nursing homes and primary care facilities	Phone calls, videoconference, and other virtual channels	Better communication, decision making, grief management, and palliative care complexity
10	Nascimento et al., 2020	Qualitative analysis	Brazil	N=35 older adults Aged 60–81 years old	Phone call, social media eg whatsapp	Promotion of quality of life and wellbeing of the local older adults

11	Nimrod, 2022	Cross-sectional analysis	Israel	N=941, aged 60 years and above	Internet use: skype, WhatsApp, zoom	Immediate threats (infection, isolation, economic strain), long-term threats (deteriorated physical health and/or mood following prolonged lockdown), and worrying about others (infected friends, infected relatives, family economic strain)
12	Pahayahay & Khalili Mahani, 2020	Mixed method	Canada & east coast of the United States	N=685 completed responses from persons of all ages	Video chat, telephone, Netflix, Facebook, print media, audio media	Better mental & Physical health
13	Pan et al., 2021	Thematic analysis	United States	N=100 senior living communities in the United States	Online platforms	Better management of impact of social isolation on mental and physical health of their residents with health recommendations and COVID-19 infections
14	Rorai et al., 2021	Mixed method	United States	N=1,200 older Black adults aged 55 and older	Telephone	Reduction in social isolation.
15	Schlomann et al., 2022	Quantitative data analysis	Germany	N=1,698; age range: 80–103; 9% reportedly in long-term care	web based online technology including smartphones or tablets and nonweb-connected information and communication technology e.g., mobile phones or PCs without access to the Internet	Reduced levels of loneliness and increased levels of autonomy
16	Weil et al., 2021	Cross-sectional method	United States	N=40,000 adults 60 and over	Messaging apps, video chat, and social media platforms (Facebook, Instagram, Twitter)	Social connections safely while distancing, enhanced social engagement, health and wellness, financial security, civic participation, and creative expression

Communication platforms

In an Austrian study by [51] examining the impact of the COVID-19 lockdown on system usage of an innovative care support system and the mood of older adults, (N=39 older adults), number of older adults using the system significantly decreased from the period before lockdown (39 [100%]) to during lockdown (26 [67%]) and thereafter (23 [59%]; $p < 0.001$). They concluded that communication was the primary reason for using the support system. Furthermore, strategies and interventions are essential to support older adults when using information technology in the prolonged phases of the pandemic to sustain independent living. In another study by [50] examining digital inclusion of older adults during covid-19, it was reported that the use of social media is a way to reduce social isolation experiences during COVID-19, promote communication and mental wellbeing of older adults during the pandemic [38].

Traditional Media as a means of information and communication

In a study by [8] to examine examining the associations between COVID-19 media exposure and anxiety/perceived risk/severity and investigate their dependency on sex in middle-aged/older adults in the USA (n=281), it was reported that in older adults, the use/dependency on media for COVID-19 information was linked to negative psychological health and increased COVID-19 perceived risk and severity. Men were also reported to be at increased risk of anxiety related to media exposure [51].

Additionally, in a mixed method study by [36], examining the immediate aftermath of the COVID-19 lockdowns, and the relationship between subjective stress and changes in the standard of media use, it was reported that the relationship between appraisal of the media's positive and negative angles varied with demographic differences in mental health pliancy. Also, increased stress was associated with higher prevalence of passive viewing (streaming service, YouTube, and Instagram), especially in those who did not consider their mental health to be sound. Hence, the relationship to social media was compounded by prolonged use, and though many depended on it for connection, information, and control, many also tried to avoid it for being burdensome and overhyped. Also, females were more likely to use it, and those with mental health complaints were more likely to circumvent it.

Telephone and Television as a means of information and communication support system

In a retrospective cohort study conducted in Spain by Dura-Perez et al., 2022, 151 participants with mild cognitive impairment were interviewed by telephone within 6 weeks in 2020. All participants had assessments on cognition, quality of life, and mood prior to the COVID-19 breakout in a six-month interval. Findings from the study showed that the first months of the outbreak had no significant impact their cognition, quality of life, perceived health status, and depression when making comparisons with control groups prior to the outbreak. However, this study showed that isolated living and low technology use requires further research to ascertain whether there are risk factors contributing to mental health

issues during lockdowns in vulnerable older adult populations. Information and communication support systems were useful for information, cognitive engagement, entertainment, and socialization during the pandemic.

Implications for gerontological information and communication-based mental health practices

Understanding the experiences and effects of information and communication support systems especially during isolate periods like the pandemic on older adults can provide guidance in executing interventions and coping strategies to support their mental health and wellbeing. From these findings, the evidence suggests access to information and communication support systems benefited older adults in various domains such as physical, emotional, cognitive, mental, and social aspects [21, 26, 28, 30, 36, 39] Pan et al., 2021; [19] by reducing their risk for social isolation, better self-rated health and better sense of satisfaction. Access to media, the use of traditional media such as newspapers, online social media applications and communication apps helped provide needed information and communication with peers and family members that aided sustenance of quality of life among older adults. Additionally, the use of information and modern technology devices are likely to improve older adults' social wellbeing by creating a virtual reality, reduced psychological stress, and provided comfort during confinement due to the COVID-19 pandemic. [19] showed that in Germany, when compared to daily users, those who made less use of the internet to contact friends and relatives, reported increased loneliness, lower life satisfaction and more depressive signs. Hence, improved psychosocial factors were associated with medium education (compared to low education), living with partner in the same household (compared to singles), better self-rated health, and complimentary COVID-19 factors. This finding supports recent observations stating that most older adults in affluent countries are more likely to need and embrace modern information and communication support (Heart & Kalderon, 2013). Several studies on older adults' report that information and communication support improve mental health wellbeing [13]; Latikka et al., 2021; Talmage et al., 2021. Similarly, Achdut et al. (2020) reports that formal social participation practices accompanied by internet mediate socioeconomic status self-rated health link. Furthermore, informal social participation practices and self-perceived trust indicates that increased communication is associated with decreased depression indicators in older adults. Hence, staying active and maintaining a healthy social life helps curb the incidence of illness and enhances recovery from chronic health conditions such as heart disease, mental illness, diabetes, arthritis, cancer, and dementia, among many others (US Department of Health and Human Services, 2018).

Discussion

We found the use of information and communication support system to be beneficial to mental health of older adults. Older adults with excessive use of information and communication support system may however experience increased activity

and might experience chronic stress due to negative affect in response to constantly challenging surfing information and listening to sad news especially as it concerns the death of loved ones during the COVID-19 pandemic. The chronic stress theory suggests that an individual's affective reactivity may determine how people respond to issues in their lives and this may in turn affect their mental health positively or negatively [36]. Several evidence suggests that affective responses to minor daily conditions or situations are associated with general affective mental disturbances [28] Pan et al., 2021; [21]. Additionally, researchers have reported that this effect may be associated with heightened mental disorders in older age [36]. As reported in this study, the use of information and communication support system is greatly associated with increased social connectivity, reduction in loneliness and a good sense of mental well-being [22].

Physical and emotional-focused information and communication support systems

The existing evidence suggests that older adults seek to sustain their mental health through information and communication support systems. (Nascimento et al., 2020). In their Brazil study, Nascimento et al. (2022) reported an important relationship between physical and emotional levels and indicators of depression in older adults when COVID-19 mitigation strategies were in place. A qualitative study with 35 older adults revealed a substantial amount of concern on the possibility of being infected by the virus, growing anxiety due to sad news, increasing number of deaths, the fall of the Brazilian economy and higher unemployment rate. Sleep disorders were reported to increase joint pain, reduced appetite, weight loss, and reduced functional capacity were also reported in the study. Everyone felt sufficiently informed about Covid-19 information about the pandemic received through the radio, television, dialogue with family and friends on WhatsApp and phone because of sharing information. However, only 30% of the participants were said to be active on WhatsApp. Though the authors reported a decrease in physical health, they also reported promotion of quality of life and the importance of information and communication during the pandemic.

In a qualitative study by Lyer et al., 2021 using mixed methods evaluation from the first 8 weeks of converting a geriatrics clinic from in-person visits to video and telephone visits. Participants consisted of community-dwelling older Veterans receiving care at VA Palo Alto Geriatrics clinic. Out of the 62 scheduled appointments, 43 virtual visits (69.4%) were conducted with twenty-six (60.5%) visits conducted via video and 17 (39.5%) by telephone. The study reported that an average virtual visit of 118.6 minutes (about 2 hours) each was a life saver for patients. Patients and providers had comparable, positive perceptions about telehealth to in-person visits, limiting exposure, and visit satisfaction. Patients indicated greater comfort with using virtual visits in the future after their telehealth appointment. This created a general and improved sense of wellbeing among older veterans who participated in the study. Consequently, patients and providers

reported high satisfaction, especially with the ability to access care in-person while staying safe. The use of telehealth services during a pandemic ensures that vulnerable older patients can access care while maintaining social distancing, which serves as a vital safety measure.

Improvement in social isolation using information and communication support system

In a mixed study by [39], the study explores details on a telephone outreach project for selected older adults in Detroit, Michigan with 1204 older adults. It reported that it yielded vital information for understanding the health and social concerns of older African Americans during the Covid-19 pandemic. Calls made were made to collect timely information, provide essential resources, and input for focused program planning, and promote continued connection to the organization. It showed that older Black adults curbed social isolation thereby preserving mental health issues through virtual health education programs, sharing of vital information, and creating programs to increase social connectedness.

In a similar study by Pan et al., 2021 investigated how senior living communities managed COVID-19 by considering specific factors in their responses to COVID-19 on their websites. Analyzing 100 senior living communities in the United States, the study showed that older adults who used the websites were provided detailed vaccination information to encourage people to be vaccinated, while others illustrated the impact of social isolation on mental and physical health of their residents with health recommendations.

Effect of information and communication support systems on quality of life

Nascimento et al., (2020) and [28] reported on quality of life in relation to mental health in older adults with COVID-19 mitigation. The study by Nascimento et al., 2020 explored the impact of social isolation on the physical, mental and general health of older adults and how they kept themselves informed about the pandemic and maintaining quality of life. Comprising telephone interviews with selected 35 older adults, results showed that older adults had varying degrees of concern about the spread of the virus. Moreover, the daily and successive consumption of images about the dead brought about increased anxiety and distress. Hence, excessive use of information and communication support system was discouraged. Also, the study by [28] which examined the impact of the COVID-19 lockdown on system usage of an innovative care support system and the mood of older adults in Austria and Luxembourg reported that communication was an essential support system. The study highlighted the usefulness of involving communication technology during a lockdown to associations with better emotional health and quality of life. Innovative solutions such as information and communication systems can provide support to individuals and help care organizations to keep their standards. Additionally, important processes and interventions are essential to support older adults when using information technology in the extended phases of the pandemic to sustain independent living.

Cognitive function, information and communication support system.

[11], 2022 et al., 2022 and [26] reported on the influence of information and communication support system on cognitive functioning in older adults' mental health. The study by [11] examined the effect of COVID-19 confinement on cognitive, mental health and technology use among socially vulnerable older adults. he reported that there was no significant impact the cognition, quality of life, and mood of the participants when making comparisons with focus groups prior to the outbreak. However, perceived stress was reported as low during the outbreak. The study by [27] also investigated eHealth literacy about coronavirus disease 2019 (COVID-19) among older adults during the pandemic. Using a total of 337 older adults in an online questionnaire survey, it was noted that excess information resulted in excessive amount of information, which led to increased difficulty in judgment and induced challenges in information utilization for older adults [12].

Limitations of this review

The observed and reported results reported in the present scoping review should be considered considering some limitations. The first is that the scope of the study was limited to peer-reviewed studies published during the initial 3 years (December 2019 to September 2022) of the COVID-19 pandemic. The second limitation is that the 15 studies surveyed were mostly exploratory, and it is not clear if the findings would be replicated in follow-up studies. We recognize the limitation that only a few studies on this topic were carried out during the three-year period (December 2019–September 2022) for this review. With a longer timeframe, findings would be more definitive, acceptable, and complete.

Conclusion

Findings from the present scoping review suggest a variety of information and communication support systems during the COVID-19 pandemic had mental health benefits for older adults. Internet, phone access, traditional media and other communication and information systems benefited older adults' mental health wellbeing and were reported across age cohorts from old (60–69) through super old (80–89). However, excess and overuse of these platforms and support systems led to anxiety, stress and other psychological disturbances among older adults. Overall social connectedness achieved because of information and communication support systems by older adults during COVID-19 mitigation strategies improved or protected their mental health wellbeing compared with those who did not have access to them at all. It is therefore recommended that researchers investigate the negative effects arising from overuse of digital information and communication support system.

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