


# Resilience in older adults in the face of the COVID-19 pandemic: an integrative review

Resiliência em pessoas idosas diante da pandemia COVID-19: revisão integrativa  
Resiliencia en personas mayores ante la pandemia de COVID-19: revisión integradora

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## Abstract

**Objective:** To analyze the knowledge produced in the scientific literature about older adults' resilience in the face of the COVID-19 pandemic.

**Method:** This is an integrative literature review with primary studies published in full, in Portuguese, English and/or Spanish, between 2020 and 2022, in PubMed, EMBASE, LILACS, Web of Science and PsycINFO-APA databases. The articles were exported to the Rayyan system. The selected studies were read and entered into an instrument whose extracted data were authors, year, objective, study design, sample, mean age, resilience, main results and conclusion. In the critical assessment to determine the methodological quality and level of evidence, for qualitative studies, the Guidelines for Critical Review Form: Qualitative Studies were used, for quantitative studies, the Guideline Critical Review Form for Quantitative Studies, and mixed studies, the Mixed Methods Appraisal Tool.

**Results:** Correspond to the final analysis of the nine published articles. Regarding coping strategies, physical activities stand out, such as walking, Tai-chi, running, resistance exercises and cycling; communication technology use, such as games, video sites, teleconferences, watching TV and communication application use and leisure activities, such as reading, playing musical instruments, meditation, the art of sewing, gardening and painting and lifestyle, keeping busy, seeking social support, eating healthy, and maintaining household routines.

**Conclusion:** Older adults were relatively resilient during this pandemic. Resilience was an important factor for maintaining the well-being and quality of life of this population, with emphasis on physical activity and technology use.

## Resumo

**Objetivo:** Analisar o conhecimento produzido na literatura científica sobre a resiliência de pessoas idosas diante da pandemia COVID-19.

**Método:** Revisão integrativa da literatura com estudos primários publicados na íntegra, em Português, Inglês e/ou Espanhol, entre 2020 e 2022 nas bases de dados *PubMed*, *EMBASE*, *LILACS*, *Web of Science* e *PsycINFO-APA*. Os artigos foram exportados para o sistema Rayyan, os estudos selecionados foram lidos e inseridos em um instrumento cujos dados extraídos foram: autores, ano, objetivo, tipo de estudo, amostra, média da idade, resiliência, principais resultados e conclusão. Na avaliação crítica para determinar a qualidade metodológica e nível de evidência, para estudos qualitativos utilizou-se o *Guidelines for Critical Review Form: Qualitative Studies*, para quantitativos o *Guideline Critical Review Form for Quantitative Studies* e estudos mistos o *Mixed Methods Appraisal Tool*.

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**Conflicts of interest:** nothing to declare.

**Resultados:** Correspondem à análise final dos nove artigos publicados. Sobre às estratégias de enfrentamento, destacam-se atividades físicas, sendo estas, caminhadas, *Tai-chi*, corridas, exercícios de resistência e ciclismo; o uso da tecnologia de comunicação, como jogos, site de videos, teleconferencias, assistir TV e o uso de aplicativos de comunicação e as atividades de lazer, como a leitura, tocar instrumentos musicais, meditação, a arte de costura, jardinagem e pintura e estilo de vida, mantendo-se ocupado, busca de apoio social, se alimentar saudável e a manutenção de rotinas domésticas.

**Conclusão:** As pessoas idosas foram relativamente resilientes durante essa pandemia. A resiliência foi fator importante para a manutenção do bem-estar e qualidade de vida dessa população, com destaque para a prática de atividade física e o uso de tecnologias.

## Resumen

**Objetivo:** Analizar el conocimiento producido en la literatura científica sobre la resiliencia de personas mayores ante la pandemia de COVID-19.

**Métodos:** Revisión integradora de la literatura con estudios primarios publicados en su totalidad, en portugués, inglés o español, entre 2020 y 2022, en las bases de datos *PubMed*, *EMBASE*, *LILACS*, *Web of Science* y *PsycINFO-APA*. Se exportaron los artículos al sistema Rayyan, se leyeron los estudios seleccionados y se ingresaron en un instrumento cuyos datos extraídos fueron: autores, año, objetivo, tipo de estudio, muestra, promedio de edad, resiliencia, resultados principales y conclusión. En la evaluación crítica para determinar la calidad metodológica y nivel de evidencia, se utilizó, para estudios cualitativos, el instrumento *Guidelines for Critical Review Form: Qualitative Studies*, para cuantitativos, el *Guideline Critical Review Form for Quantitative Studies* y para estudios mixtos, el *Mixed Methods Appraisal Tool*.

**Resultados:** Nueve artículos publicados conformaron el análisis final. Sobre las estrategias de afrontamiento, se destacan las actividades físicas, como caminatas, *Tai-chi*, correr, ejercicios de resistencia y ciclismo; el uso de la tecnología de la comunicación, como juegos, páginas de videos, teleconferencias, mirar televisión y el uso de aplicaciones de comunicación y actividades recreativas, como lectura, tocar instrumentos musicales, meditación, arte de costura, jardinería y pintura y estilo de vida, mantenerse ocupado, buscar apoyo social, alimentarse de forma saludable y mantener rutinas domésticas.

**Conclusión:** Las personas mayores fueron relativamente resilientes durante la pandemia. La resiliencia fue un factor importante para mantener el bienestar y la calidad de vida de esta población, con énfasis en la práctica de actividad física y el uso de tecnologías.

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## Introduction

Brazil is rapidly moving towards an older population profile and is at an advanced stage in the demographic and epidemiological transition processes, showing gains in life expectancy, at the same time, the burden of mortality from infectious and parasitic diseases has been gradually decreasing and morbidity and mortality from Chronic Noncommunicable Diseases (NCDs) has increased, particularly in older age groups.<sup>(1)</sup>

However, in mid-December 2019, a new coronavirus infection emerged in Wuhan, China. Since then, it has been shown that this disease has spread to several countries and has become a public health problem, with older adults being one of the most affected risk groups.<sup>(2,3)</sup>

Pandemics have a significant psychosocial impact. Anxiety, panic, insomnia, depression and stress are the main psychological changes. Social distancing, although it is an important strategy to fight the pandemic for contagious diseases, it is also an important cause of loneliness, particularly in older adults, resulting in the emergence of worrying psychological disorders for this age group, considering that they are naturally more vulnerable and

added to the fact that they are the main age group affected by the disease severity.<sup>(3)</sup>

During the pandemic period, older adults were restricted and separated from loved ones, experienced distancing and social isolation, generating the risk of psychological overload. However, some cross-sectional studies suggested that this population demonstrated resilience mechanisms that allowed them to face this moment in a more positive way.<sup>(4,5)</sup>

Dealing with a pandemic requires an adequate capacity to resist failure, positively adapt and react to adversity. It also requires the ability to handle significant change and take responsibility, bouncing back from adversity, uncertainty, negativity and even making positive changes.<sup>(6)</sup> In this context, it is clear that there are people who manage to develop defense mechanisms that make them more proactive and favor coping with adversities in the face of negative experiences for this way of acting, which is called resilience which, once developed, can favor mental health and help promote individuals' well-being.<sup>(7)</sup>

In older adults, resilient behavior favors active participation in decisions about their health and overcoming difficulties, providing a safer coexis-

tence amid the emergence of challenging situations, such as a pandemic.<sup>(8)</sup>

Resilience is seen as an important contributor to successful aging and also as a psychosocial resource for promoting and protecting life satisfaction in old age, and questions related to minimized levels of depression, health promotion and satisfaction with life were incorporated.<sup>(9)</sup> However, in the face of the COVID-19 pandemic, many older adults have suffered the consequences of social isolation, given that they are already neglected with regard to the mental health perspective, substantially emerging the risk of depressive symptoms.<sup>(10)</sup>

Therefore, it is believed that this study will be able to present subsidies through the survey of scientific evidence on the resilient actions developed by older adults during and after the pandemic context and their importance in helping to face adversities with positive repercussions for their quality of life, in addition to contributing to the direction of strategies adopted by health professionals in conducting their practice with this population, in accordance with public policies related to aging.

With this, it becomes essential to carry out studies involving this population, as such resilient characteristics can give rise to prevention and health promotion strategies that aim to promote interaction and, more specifically, enhance older adults' resilient behavior in challenging situations. The objective of this study was to analyze the knowledge produced in the scientific literature about the resilience of older adults in the face of the COVID-19 pandemic.

## Methods

This is an integrative literature review, a research method based on five steps: problem identification, research in databases, assessment of studies included in the review, analysis of results and review presentation.<sup>(11)</sup> For reporting the review, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses recommendations were used.<sup>(12)</sup>

To define the research, the PICo strategy was considered, represented by (P) patient - "older adults", (I) intervention "resilience strategy" and (Co) context "COVID-19 Pandemic", which resulted in on the following guiding question: What evidence is available in the scientific literature about older adults' resilience strategy in the face of the COVID-19 pandemic?

For study selection, the following inclusion criteria were applied: primary studies published in full, which addressed the resilience strategies of older adults in the context of the COVID-19 pandemic, published in the last two years (2020 to 2022), with the search being held on xxx of xxx 2022. Publications that did not address coping resilience strategies, such as editorials, letters to the reader, theses, dissertations, experience reports and case studies, were excluded.

The search was carried out in the MEDLINE - Medical Literature Analysis and Retrieval System Online - through the PubMed, Embase, LILACS, Web of Science and PsycINFO-APA portals of the American Psychological Association (APA) databases. For that, descriptors indexed in MeSH, DeCS as well as alternative terms indicated by the databases were selected. To compose the search strategy, which was unique and adapted for each selected base, Boolean operators AND and OR and the truncation resource were used. The search strategy was carried out on April 19, 2022, according to the model below used in PubMed and adapted for the other databases: ("Aged"[Mesh] OR "Aged" OR "Elderly" OR "Middle Aged"[Mesh] OR "Middle Aged" OR "Middle Age" OR "Oldest Old" OR "Nonagenarian\$" OR "Octogenarian\$" OR "Centenarian\$") AND ("Resilience, Psychological"[Mesh] OR "Resilience, Psychological" OR "Psychological Resiliency" OR "Resilience") AND ("COVID-19"[Mesh] OR "COVID-19" OR "SARS-CoV-2"[Mesh] OR "SARS-CoV-2" OR "SARS-CoV-2 Infection" OR "SARS-CoV-2 Infections" OR "COVID-19 Virus Infection" OR "2019 Novel Coronavirus Disease" OR "2019 Novel Coronavirus Infection" OR "2019-nCoV Disease" OR "2019 nCoV Disease" OR

“2019-nCoV Diseases” OR “COVID-19 Virus Infection” “COVID 19 Virus Infection” OR “COVID-19 Virus Infections” OR “Coronavirus Disease 2019” OR “Coronavirus Disease-19” OR “Coronavirus Disease 19” OR “Severe Acute Respiratory Syndrome Coronavirus 2 Infection” OR “SARS Coronavirus 2 Infection” OR “COVID-19 Virus Disease” OR “COVID 19 Virus Disease” OR “COVID-19 Virus Diseases” OR “2019-nCoV Infection” OR “2019 nCoV Infection” OR “2019-nCoV Infections” OR “COVID19” OR “COVID-19 Pandemic” OR “COVID 19 Pandemic” OR “COVID-19 Pandemics”).

The articles were exported to the Rayyan software<sup>(13)</sup>, and the identified duplicates were removed. Two reviewers were included to select the studies by reading the title and abstract blindly, then a third reviewer performed the consensus. After reading the titles and abstracts, eligible studies were selected for reading in full, based on the review’s eligibility criteria.

The selected studies in Rayyan were read, and the extracted data were entered into a form containing article, objective, study design and sample characteristics, proposals for resilience, conclusion and level of evidence. This step was also performed by three reviewers, two of whom read the studies in full, then a third reviewer performed the consensus. Critical assessment tools were used to determine methodological quality, such as the Guideline Critical Review Form for Quantitative Studies developed by the McMaster University Occupational Therapy Evidence-Based Practice Research Group. In this checklist, each step of the articles included in this review was carefully assessed with a quantitative method, consisting of nine topics: reference, literature, design, sample, outcome, intervention, results and conclusions.<sup>(14)</sup> For the methodological analysis of qualitative studies, the instrument Guidelines for Critical Review Form: Qualitative Studies was used. This checklist was composed of twelve topics that were assessed references, study objective, literature, design, sample, data collection, accuracy, data analysis, au-

dit, theoretical connections and conclusions.<sup>(15)</sup> For mixed studies, the Mixed Methods Appraisal Tool (MMAT) was used to assess and strengthen the methodological rigor of mixed methods studies, which has twenty-five specific evaluative items/criteria, which fall into five categorical topics: justification, integration, interpretation, disagreements and compliance.<sup>(16)</sup> To assess the level of evidence, a hierarchical base was used, which are analyzed according to the research question, related to intervention/treatment or diagnosis/diagnostic test, prognosis/prediction or etiology and meaning.<sup>(17)</sup>

Since it is an integrative review, the study was not submitted for consideration by the Research Ethics Committee. The results were presented in a descriptive way.

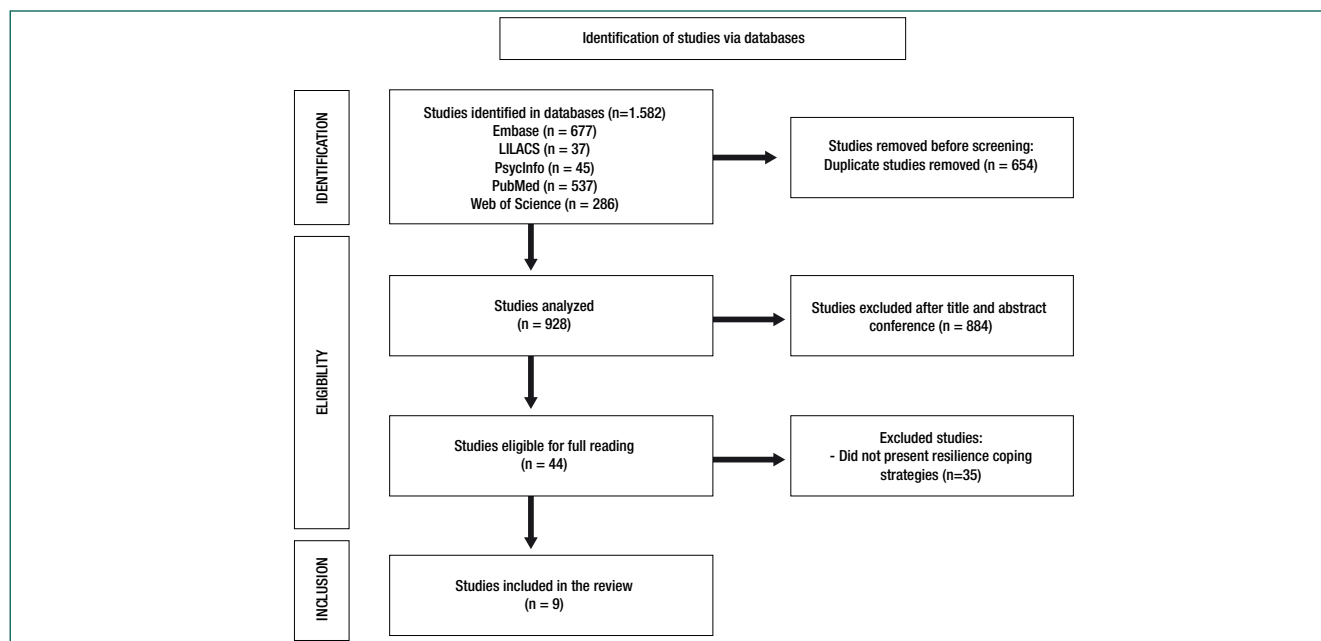
## Results

The flowchart shows the path taken to select the studies, resulting in a final sample of nine primary studies (Figure 1).

The results of this review correspond to the analysis of nine articles published, all in English, in the following countries: four studies in the United States of America (45%), one in China (22%), one in Spain (11%), one in France (11%) and one in Canada (11%). Regarding databases, there were eight articles published in journals indexed in MEDLINE/PubMed (88%) and one in Embase (12%). As for the year of publication, there were two in 2020 (22%), five in 2021 (56%) and two in 2022 (22%). Regarding the research design, three primary studies with a quantitative approach (33.3%) were identified, three with mixed methods (33.3%) and three with a qualitative approach (33.3%). Chart 1 presents the characteristics of included studies: article, objective, study design and sample characteristics, proposals for resilience, main results, conclusion and level of evidence.<sup>(17)</sup>

Recommended and proposed resilience strategies are described in Table 2.

Regarding studies with a quantitative method, two had a cross-sectional design (66.6%) and



**Figure 1.** Selection flowchart of studies included in the integrative review, prepared according to PRISMA recommendations

**Table 1.** Characteristics of included studies

Article	Objective	Study design and characteristics of the sample	Resilience proposals	Main results	Conclusion	Level of evidence
A1 <sup>(18)</sup>	To examine older adults' psychological well-being during home isolation due to the COVID-19 pandemic and to investigate whether meeting the World Health Organization's global recommendations on physical activity for health is associated with their resilience, affect and depressive symptoms.	Cross-sectional N= 483 older adults Mean age = 65 years old Sample= 51% of women	Resilience was higher among participants who achieved minimum vigorous physical activity (VPA) and moderate-vigorous physical activity (MVPA) per week.	Older adults who regularly engaged in moderate/vigorous physical activity and moderate physical activity during quarantine reported higher scores on resilience, positive affect and lower scores on depressive symptoms.	Involving older adults in minimum levels of VPA or MVPA per week can be a protective measure for their psychological well-being during confinement.	LoE: VI (Clinical Question: diagnosis)
A2 <sup>(19)</sup>	To address older adults' attitudes, psychological and social experiences towards the pandemic and lockdown and their impact.	Cohort, epidemiological survey N= 467 older adults Mean age = 87 years Sample= 59% of women	Distraction (distracting attention to leisure activities such as reading, watching television, playing games, gardening, crafting...) was the most common coping strategy.	Engaging in leisure activities was the most frequent coping strategy, and for many participants, lockdown did not represent much of a change in terms of their daily routine.	As challenging as the pandemic has been so far, and partly in contrast to the preconceptions one might have about older adults, a growing number of studies are highlighting the potential resources and resilience skills of older adults, including at age advanced.	LoE: II (Clinical Question: meaning)
A3 <sup>(20)</sup>	To examine levels of perceived self-assessment of coping among older adults as well as exploring the ways older adults are coping with the sudden need to socially isolate.	Mixed N= 76 older adults Mean age = 81 years Sample= 72.4% of women	Keeping busy, seeking social support and having a positive mindset were the coping strategies identified in respondents' responses.	The average level of perceived coping (on a scale of 1 to 10) was 7.9, with 87% of participants rating their coping positively.	Contrary to prevailing messages about older adults' vulnerability, the study's findings highlight the resilient nature of older adults in terms of psychological coping and adaptability during COVID-19.	LoE: IV (Clinical Question: meaning)
A4 <sup>(21)</sup>	To investigate perceived levels of stress, resilience, and coping strategies related to COVID-19 in a sample of community-dwelling older adults who took part in two longitudinal observational studies in Massachusetts, USA.	Cross-sectional N= 141 older adults Mean age = 74 years old Sample= 59% of women.	The three most endorsed coping strategies were: I have been eating healthy, well-balanced meals, I have been having enough sleep, and I exercise regularly (e.g., walking, jogging, cycling, resistance exercise), indicating that overall, study participants have been engaging in healthy living habits during the pandemic.	Participants demonstrated moderate levels of COVID-19-related stress and showed relatively high levels of resilience. Resilience was associated with greater use of adaptive coping behaviors and less use of maladaptive coping behaviors. Using maladaptive coping strategies was associated with more stress.	Resilience is critical to dealing with stress during the COVID-19 pandemic and contributes to the current discussion on the urgent need to build resilience and develop strategies to improve it.	LoE: VI (Clinical Question: diagnosis)

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Continuation.

Article	Objective	Study design and characteristics of the sample	Resilience proposals	Main results	Conclusion	Level of evidence
A5 <sup>(22)</sup>	To explore the experiences of older community adults in Wuhan during the 2019 coronavirus disease lockdown.	Empirical phenomenological approach N= 18 older adults Mean age = 72 years Sample= 55.6% of women	They continued their activities at home (such as walking, tai chi) or started activities, learned to use smartphone apps for fun, communicate with others and buy goods.	Four main thematic categories emerged: challenges, multidimensional support, resilience amidst challenges, and post-epidemic impact.	The results of the study suggest that certain social dynamics and individual behaviors helped older adults to cope better with the stressful period of quarantine.	LoE: II (Clinical Question: meaning)
A6 <sup>(23)</sup>	To examine quantitatively and qualitatively whether older adults in Hong Kong are psychosocially more vulnerable compared to younger adults, and then explore how they cope with the COVID-19 pandemic.	Mixed N= 1077 older adults Mean age = 71 years old Sample = 50% of women and 50% of men	Sports (such as Tai-chi and Qigong) entertainment, especially playing musical instruments (such as Erhu).	Compared to younger adults, older adults tend to be less concerned about COVID-19 infection and economic/livelihood activity. They also showed better subjective well-being in terms of happiness and life satisfaction, with their social capital and social interaction less affected.	Older adults showed better psychosocial well-being than their younger peers during the COVID-19 pandemic. Stronger resilience to positive coping, technology assistance, and targeted government and community support may have protected older adults from suffering during the pandemic.	LoE: IV (Clinical Question: meaning)
A7 <sup>(24)</sup>	To identify ways of dealing with worries and stress during the pandemic from the perspective of older adults in the United States.	Qualitative N= 6398 older adults Mean age = 67 years old Sample= 63.8% of women	Purposes reported frequently included exercising and going outdoors (mainly hiking and yoga), modifying routines (with games, puzzles, watching television, painting, cleaning, knitting, crocheting and sewing, planning fun activities, reading and listening to audio content), following public health guidelines, adjusting attitudes (such as meditation and breathing exercises), and staying socially connected.	The most common coping categories were related to exercise and outdoor activities, daily living, COVID-19 precautions, attitude and perspectives, and social connections. Over 20% of respondents explicitly reported not using any coping strategies.	Sources of resilience and coping strategies have potential practical implications for promoting well-being and quality of life among older adults during the pandemic and future social traumas. Older adults can benefit from interventions that leverage positive coping strategies.	LoE: II (Clinical Question: meaning)
A8 <sup>(25)</sup>	To better understand the experience of older adults in the community during the first six months of the pandemic in Ontario, Canada.	Mixed N= 22 older adults Mean age = 72 years Sample= 59% of women	Behavioral Strategies: keeping busy and finding new hobbies such as gardening, baking, quilting, reading and painting, staying physically active. Emotionally Focused Strategies: Gratitude for small pleasures, acceptance of current situation and optimism about the future.	Two overarching themes were identified: perceived threat and challenges of the pandemic and coping with the pandemic. Specifically, participants reflected on the threat of contracting the virus and the challenges associated with living arrangements, social isolation and financial insecurity. Participants shared their coping strategies for maintaining health and well-being, including behavioral strategies, emotion-focused strategies, and social support.	Older adults have been relatively resilient during this pandemic. They did not feel they were at greater risk of contracting COVID-19; they did not report the onset of new health-related concerns in the first six months of the pandemic; they did not feel the need to be treated differently because of their age	LoE: II (Clinical Question: meaning)
A9 <sup>(26)</sup>	To explore the daily activities of marginalized older adults and how they coped with various challenges during the COVID-19 pandemic, when quarantine was enforced across the state.	Qualitative N= 18 older adults Mean age = 73 years old Sample= 94% of women	Technology use was reported: teleconferencing to attend religious services and communicate with family and friends. Some reported using YouTube to stay physically and mentally active and engaged. Informal support from family and neighbors. Formal support from community organizations for older adults: support groups, meals at home, newsletters. Despite the fear of local insecurity, some reported walking as a strategy.	Most participants were female (94.4%), black or African-American (77.8%) and retired (77.8%). Older adults overcame adversity by using technology to continue daily activities, exchanging informal support with family members and neighbors, relying on formal support from community organizations, and staying physically active in their neighborhoods.	Many older adults were able to leverage protective factors at various levels to demonstrate resilience to pandemic stressors. While technology has not been able to replace the emotional satisfaction received from person-to-person contact, it has provided older adults with access to vast resources for learning, entertainment and physical activity.	LoE: II (Clinical Question: meaning)

**Chart 2.** Resilient proposals for coping recommended in studies

Recommendation	Proposal
Physical exercises	Walking <sup>(18,21-22,24,26)</sup>
	Tai Chi <sup>(22-23)</sup>
	Running, resistance exercises, cycling <sup>(21)</sup>
Technology use	Games <sup>19-24)</sup>
	Video and teleconference website <sup>(26)</sup>
	Watching television <sup>(19-24)</sup>
Leisure activities	Communication apps <sup>(22)</sup>
	Reading <sup>(19, 24-25)</sup>
	Play musical instruments <sup>(23)</sup>
Lifestyle	Meditation, painting, sewing, gardening <sup>(19, 24-25)</sup>
	Keeping busy, seeking social support <sup>(20,25)</sup>
	Healthy meals <sup>(21)</sup>

one a cohort design (33.3%). Among the three, one study did not clearly present the objective (33.3%). Regarding qualitative studies, three articles used a phenomenological design (100%), with equivalence in the other assessment requirements. In the analysis of the three mixed studies, one study did not present properly interpreted results (33.3%).

## Discussion

From the analysis of articles selected for the present study, it is observed that one of the main resilient proposals for coping consists of physical activities, such as walking, Tai-chi, running, resistance exercises and cycling. Physical activity has always been considered as one of the ways to improve lifestyle, with positive effects on physical and mental health.<sup>(27)</sup>

On the other hand, social isolation during the pandemic promoted impacts on elder health, generating disorders such as stress, insomnia and possible aggravations of pre-existing diseases.<sup>(3)</sup> In a study carried out in the USA, it was observed that resilience can amplify the positive effects and dampen the negative effects of coping.<sup>(21)</sup>

It is important to highlight that older adults commonly face loneliness, and the pandemic has contributed to the worsening of this condition, in the face of social distancing, routine changes, lack of physical contact with people and leisure.<sup>(28)</sup> Previous studies have shown that psychosocial

resources, such as positive coping behaviors and social support, help sustain well-being during times of extreme stress, such as the COVID-19 pandemic.<sup>(29,30)</sup>

In this context, resilience emerges as a support to deal with the adversities promoted in the face of the pandemic and post-pandemic moment and can contribute to the management of older adults' physical and mental health.<sup>(23,26)</sup> However, although they are considerably vulnerable to different adverse situations, most older adults find themselves seeking to maintain their emotional well-being, be psychologically resilient and socially support other people.<sup>(31)</sup>

A study indicates that resilience was greater among participants who practiced physical activity of moderate to vigorous intensity per week, in addition to improving aspects such as affection and depressive symptoms.<sup>(18)</sup> Additionally, in another research, strategies found in older adults such as healthy eating, regular sleep and physical exercise practices, such as walking, running and cycling, once again demonstrate that physical activity is an ally of resilience in older adults in the face of the pandemic.<sup>(21)</sup> In Finland, a longitudinal study identified that older adults, even with mobility difficulties, began to perform physical activities even at home, with emphasis on outdoor exercises such as walking, with a view to enhancing resilient behaviors.<sup>(32)</sup>

During the pandemic period, older adults concentrated their activities at home or in the communities and began to adapt their lives according to the conditions brought about by the pandemic.<sup>(22)</sup> It is interesting to note that some study participants reported that they were inactive, but started exercising to combat COVID-19, and others left gyms to perform outdoor activities through online classes and exercise-oriented apps. These positive coping strategies were also reported by other studies that suggested that this proactive attitude could protect older adults from the stress of COVID-19.<sup>(20,33)</sup>

The present study also identified that other strategies for coping with the COVID 19 pandemic were technology use, such as games, video websites, teleconferences, watching TV and communication

application use. Analyzing the national and international scientific literature, it is observed how much digital technologies can contribute in the fields of older adults' health and well-being as well as socialization.<sup>(34)</sup> Its use can help older adults to improve their quality of life, reduce loneliness and increase access to information as well as the frequency of communication with family members, extreme aspects affected in the context of the COVID-19 pandemic.<sup>(35)</sup>

Some studies have shown that digital technology use is one of the resilience strategies in the pandemic and post-pandemic times.<sup>(19,22,26)</sup> In Canada, most older adults participating in an investigation developed strategies to connect remotely through phone and video calls, text messages, emails and social media.<sup>(34)</sup> Many digital technology tools can support older adults, in order to protect this population from the risks of loneliness and social isolation, and favor better coping with adversities.<sup>(35)</sup> However, despite adherence to remote strategies, remote contact did not exceed the needs and expectations of physical contact.<sup>(34)</sup>

During the period of social isolation, many older adults had their leisure activities interrupted, especially in the first wave of the pandemic. As a result, they had to adapt to new routines and start new practices such as gardening, sewing, reading, volunteer services, painting, playing musical instruments, meditation, seeking social support, healthy eating and maintaining domestic routines.<sup>(27)</sup>

The data presented in the included articles are consistent with the literature review, demonstrating that the coping strategies used are consistent with the presented literature. It is worth noting that the use of these strategies can be used by older adults to improve their living conditions during the pandemic and post-pandemic times.

In the level of evidence analysis, of the nine articles, only two with quantitative design presented the level of evidence VI. Given these findings, it is understood that, for the study of resilience, more robust methods should be used to provide greater

evidence in the findings. In our view, as the studies were carried out during this pandemic period, the authors probably presented the data considering the emergence of the situation presented in the pandemic.

In this review, some limitations were identified: the first refers to the inclusion of only available and free articles, which may have contributed to the non-inclusion of relevant studies for the proposed synthesis. Furthermore, no primary national studies were identified that answered the research question, which characterizes a gap in this knowledge in the Brazilian population.

The study points to the importance of research on the resilience of older adults, given the demand for interdisciplinary and multidisciplinary care for this population. Thus, it demonstrates the need for advances in research with greater evidence, thus being able to assess the interventions of gerontology professionals. It should be noted that such interventions help to improve older adults' living conditions during and after the pandemic.

## Conclusion

The knowledge produced in the literature about older adults' resilience in the face of the COVID-19 pandemic, demonstrated that this population faced the pandemic using different strategies, with emphasis on physical activities, communication technology use, leisure activities and lifestyle. According to studies, older adults who tried to neutralize the negative consequences of isolation by learning something new or finding themselves were able to withstand the adversities of recent years in the context of the pandemic. Using such strategies was indispensable for developing resilient behavior during the pandemic and consequently in the post-pandemic moment. Therefore, it is important to conduct studies with higher levels of evidence, given the need to identify the impacts of resilience and its effects on older adults as well as its relationship to active and healthy aging.



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