









COVID-19 infodemic and adult and elderly mental health: a scoping review

Infodemia de COVID-19 e saúde mental de adultos e idosos: uma revisão de escopo

Infodemia de COVID-19 y salud mental de adultos y ancianos: una revisión de alcance

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ABSTRACT

Objective: to map scientific knowledge about the repercussions of the infodemic on adult and elderly mental health in the context of the COVID-19 pandemic. **Method:** this is a scoping review, developed using the Joanna Briggs Institute (JBI) methodology, which included 33 articles. These articles were analyzed according to average age, gender and education level; place and period of the studies; exposure time to COVID-19 information; main signs and symptoms related to mental health; main sources of information; suggestions for mitigating the effects of the infodemic; and knowledge gaps. **Results:** the most present repercussions of the infodemic on the adult and elderly mental health were anxiety, depression and stress, and the most affected group was young adults and females. **Conclusion:** future studies with more robust designs are needed to investigate the repercussions of the infodemic on people's mental health in the medium and long term, as well as to assess the effects, feasibility, cost-benefit and meaning of interventions in population groups, especially in the elderly population.

DESCRIPTORS

Health Communication; Mental Health; Information; Information Dissemination; Adult; Aged.

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INTRODUCTION

In December 2019, in the city of Wuhan, China, the first cases of what was announced, on March 30, 2020, by the World Health Organization (WHO) began as the new coronavirus pandemic (SARS-CoV-2), cause of the disease known as Coronavirus Disease 2019 (COVID-19)⁽¹⁻²⁾.

This disease is highly contagious, as it severely affects the airways, causes an increased risk of vascular permeability, organ failure and, consequently, death, if not controlled, being transmitted from human to human rapidly⁽¹⁻³⁾. It reached catastrophic proportions due to globalization and great mobility of people⁽⁴⁾, rapidly spreading to six continents, causing a serious health crisis and strong social, economic and political impact⁽²⁾.

The pandemic caused the emergence of a phenomenon called infodemic⁽⁵⁾, defined as an overabundance of information, which may or may not be true, that spread similarly to an epidemic through digital and physical information systems, making it difficult to obtain reliable sources and guidance when necessary⁽⁶⁾.

Currently, the ease of purchasing electronic equipment and devices and the connection to the internet have enabled people to access and share information in real time and anywhere in the world. However, this aspect also favors the dissemination of false news, of dubious origin, in addition to the large amount of information that is presented to individuals⁽⁴⁾. Unrestrained sharing of unauthenticated and, in many cases, incorrect information increases misinformation and fosters serious consequences, such as deaths, denial, conspiracy theories, xenophobia, discrimination and racism⁽⁷⁾. In this regard, we can say that we are experiencing an epidemic of misinformation, in which false information is created and disseminated with the intention of deceiving and/or harming⁽⁸⁾.

Despite being a recent issue, studies already point out that the infodemic potentiates serious consequences for populations^(1-2,4-5) and that its effects on individuals are still immeasurable⁽¹⁾. Disinformation disseminated on social networks puts public health at risk⁽⁹⁾ and can cause severe consequences for individuals and the community⁽¹⁰⁾.

During the COVID-19 pandemic in Wuhan, China, there was a high prevalence of problems related to mental health, mainly depression (48.3%), anxiety (22.6%) and both (19.4%), due to exposure to information mediated by digital social networks⁽¹¹⁾. The authors recommended the need for greater attention to mental health problems, especially depression and anxiety. They pointed out the importance of fighting infodemics while facing a pandemic⁽¹¹⁾. Another study highlighted the fact that quarantine and social isolation contributed to greater exposure of people to information disseminated by digital social networks, favoring serious psychiatric problems⁽¹²⁾. Moreover, the plethora of information and the dissemination of inconsistent and sensationalist advertisements, videos and news causes panic and fear and leads to psychological problems such as anxiety, phobia, panic attacks, depression, irritability, among others⁽¹⁾.

Although the patterns of information on the internet have been studied for years, it was only with the COVID-19 pandemic that the first infodemic was recognized, and the scientific evidence on the consequences of this phenomenon is

still limited⁽¹³⁾. It is also expected that the infodemic can affect the physical health of populations in the operationalization and management of health services, as well as in the health system of a country⁽¹⁾.

As this is a new subject, the need to map publications on the subject, available evidence and gaps in this area of knowledge is recognized^(5,13-14). In a preliminary search of the International Potential Register of Systematic Reviews (PROSPERO), MEDLINE, the Cochrane Database of Systematic Reviews, the JBI Evidence Synthesis and the Open Science Framework, no systematic review or review of existing scope to answer the question was identified: what are the repercussions of the infodemic on adult and elderly mental health in the context of the COVID-19 pandemic? Therefore, this scoping review aims to map scientific knowledge about the repercussions of infodemics on adult and elderly mental health in the context of the COVID-19 pandemic.

METHOD

DESIGN OF STUDY

This is a scoping review, which aims to map the key concepts that support a research field, as well as clarify the working definitions and/or the conceptual limits of a topic⁽¹⁴⁾. Considering that the subject is emerging and that evidence on the subject is still being discovered^(5,13), the choice of methodology has a vast potential to explore the literature in a broad way, map and describe the evidence and inform future research⁽¹⁵⁾.

To conduct the study, developed according to the Joanna Briggs Institute (JBI) methodology, the nine proposed steps were followed: definition and alignment of objectives and issues; development and alignment of the inclusion criteria with the objective and the question; description of the planned approach to evidence search, selection, data extraction and presentation of evidence; search for evidence; evidence selection; evidence extraction; evidence assessment; presentation of results; summarizing the evidence regarding the purpose of the review, establishing conclusions and noting any implications of the findings⁽¹⁴⁾.

IDENTIFICATION OF GUIDING QUESTION

The guiding question developed to carry out the review was: what are the repercussions of the infodemic on adult and elderly mental health in the context of the COVID-19 pandemic? In this scoping review, the repercussions concern the effects and influences that the infodemic has on people's mental health. The studies incorporated in this scoping review were selected using the PCC mnemonic strategy (Population, Concept and Context), according to the JBI methodology. For this study, we considered as population (P) adults (≥ 18 years) and elderly (≥ 60 years); the concept of interest (C) is infodemic; and the context (C) considered was the COVID-19 pandemic scenario⁽¹⁴⁾.

The concept of infodemic adopted was that of the WHO, which describes it as a superabundance of information – some accurate and some not – which occurs during an epidemic and can spread through physical and digital means, making it difficult to access reliable sources and reliable guidance, when necessary⁽¹⁶⁾.

SELECTION CRITERIA

In this scoping review, experimental and quasi-experimental studies were considered (randomized and non-randomized controlled studies, before and after studies and interrupted time series studies); analytical observational studies (prospective and retrospective cohort studies, case-control studies, and cross-sectional analytical studies); descriptive observational studies (case series, individual case reports and descriptive cross-sectional studies); qualitative studies and systematic reviews that met the inclusion criteria. Furthermore, we include texts published by international agencies related to the topic. Although the theme of infodemic is recent, the production on the COVID-19 pandemic has been extensive.

We consider as inclusion criteria for this scoping review publications with varied methodologies, as it is an emerging issue in English, Spanish, or Portuguese, published from 1996, in which the first infodemiological study was published, until November 19, 2020, due to the need to plan for analysis data criticism. Publications that did not fit the objectives of the study, that did not contain information related to the proposed scenario and that did not cover the chosen concept and context were excluded.

DATA COLLECTION

The search for published studies was performed in the databases Web of Science, Scopus, Online System for Search and Analysis of Medical Literature (MEDLINE) (access via PubMed), Latin American Literature of Information Bibliography (LILACS) and Virtual Health Library (VHL). The search for unpublished studies (gray literature) was performed in Google Scholar, CAPES Journal Portal, ProQuest (Dissertation and Thesis), Thesis (Thesis Doctorales Database), RCAAP (*Repositório Científico de Acesso Aberto de Portugal*), Canadian Dissertation and Thesis Portal, Dart-E (database of European theses and dissertations). No document that met the objectives of this study was found in these databases. We also sought documents from the Brazilian federal government, WHO and the Pan American Health Organization (PAHO).

The search followed three distinct steps, according to the JBI methodology: 1) an initial search was carried out limited to Web of Science and Scopus, to identify articles on the subject, and, based on that, we selected words and index terms contained within in these publications for the development of the full search strategy; 2) we then use the identified keywords and index terms to search across all included databases; 3) the third step consisted of identifying and selecting the articles contained in

the reference lists of sources used. The complete search strategy carried out in English in one of the databases is described in Chart 1. We adapted the searches to the aforementioned languages and to the other databases, according to their specificities.

DATA ANALYSIS

A list of non-duplicated articles was generated in an Excel spreadsheet and made available to two independent reviewers. Titles and abstracts were reviewed and evaluated against inclusion criteria. Potentially relevant publications were retrieved in full. Disagreements regarding the selection of articles were resolved through discussion among researchers.

Data extraction was performed based on a form developed by the authors and based on the form suggested by the JBI manual⁽¹⁴⁾. The extracted data included title, authors, year of publication, country in which the study was conducted, study design, study objectives, study methods and phenomenon of interest, age group of study participants – if applicable, gender that most participated in the survey – if applicable, most common level of education in the survey – if applicable, date of completion of the research – if applicable, implications of the infodemic on mental health, main results and/or contributions, suggestions for managing infodemic and limitations of publications.

Based on the extracted data, a descriptive analysis of the information collected through the form was performed. From this, we used the frequency distribution in which the publications presented information on the predominant gender in the surveys, the predominant level of education in the surveys, period in which the surveys were carried out and implications of the infodemic on mental health (signs and symptoms).

From the related data, we developed a chart with data from selected publications and a chart, in which we synthesized the main recommendations found in the publications, to mitigate the effects of the infodemic on adult and elderly mental health. Furthermore, we created a word cloud created on the Word Art website (<https://wordart.com/nwl5dq0aletg/nuvem-de-palavras>) and based on data obtained on the implications of the infodemic on mental health, in which we selected the signs and symptoms that were reported in the publications and classified them based on the frequency in which they appeared.

The results of the search steps are presented through the flow diagram of Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA-ScR), extension for Scoping Review⁽¹⁷⁾.

Chart 1 – English search strategies used in one of the researched databases – Brazil, 2021.

Database	Language	Search strategies	Search date	Articles retrieved
Scopus	English	(infodemic); (infodemic AND COVID-19 AND mental health); (COVID-19 AND mental health AND elderly); (infodemic AND mental health AND aged); (information AND COVID-19 AND mental health AND aged); (infodemic AND impact AND aged); (infodemic AND aged); (infodemic AND disinformation AND aged); (infodemic AND misinformation AND aged)	11/06/2020	869
		(Infodemic AND misinformation OR disinformation AND anxiety); (Infodemic AND misinformation OR disinformation AND fear); (Infodemic AND misinformation OR disinformation AND stress); (Infodemic AND misinformation OR disinformation AND depression).	11/19/2020	41

RESULTS

As shown in Figure 1, we retrieved 8,422 potentially eligible publications (Web of Science = 620; Scopus = 927; MEDLINE/PubMed = 1,425; LILACS = 82; VHL = 5,368). 4,643 publications that were duplicates were excluded. A total of 182 articles were eligible for the stage of analysis of titles and abstracts; of this total, 59 articles were selected for full reading. Of these, seven articles were excluded due to inability to access the full text; 14 did not address aspects related to mental health; three addressed only mental health during the pandemic and were not related to the infodemic; two did not include the context chosen for the research; and an article was published in Russian.

When performing the search for articles in the references of publications initially selected, three more non-duplicated articles were identified, whose titles and abstracts were evaluated, with only one being selected. The other two were excluded, as they did not fit the study objectives. Thus, the final sample consisted

of 31 articles, a WHO document and a PAHO document, read in full and analyzed by two researchers and study authors.

Most of the researches were carried out in China (n = 11) and the United States (n = 4). Most publications (n = 32) were published in 2020 in English (n = 32), in journals in the fields of psychology, psychiatry, preventive medicine, public health, among others. The characteristics of publications are summarized in Chart 2.

Regarding the methodologies used, the publications were divided into empirical research (n = 26), theoretical research (n = 5) and document from an international agency – WHO and PAHO (n = 2). Regarding research designs, four literature review articles, a letter to the editor, two correlational studies, a mixed methods study, an empirical study, two exploratory studies, a longitudinal study, 19 cross-sectional studies and two documents from official agencies were included.

Regarding the characteristics of the publications included in the review, it was possible to observe a predominance of female

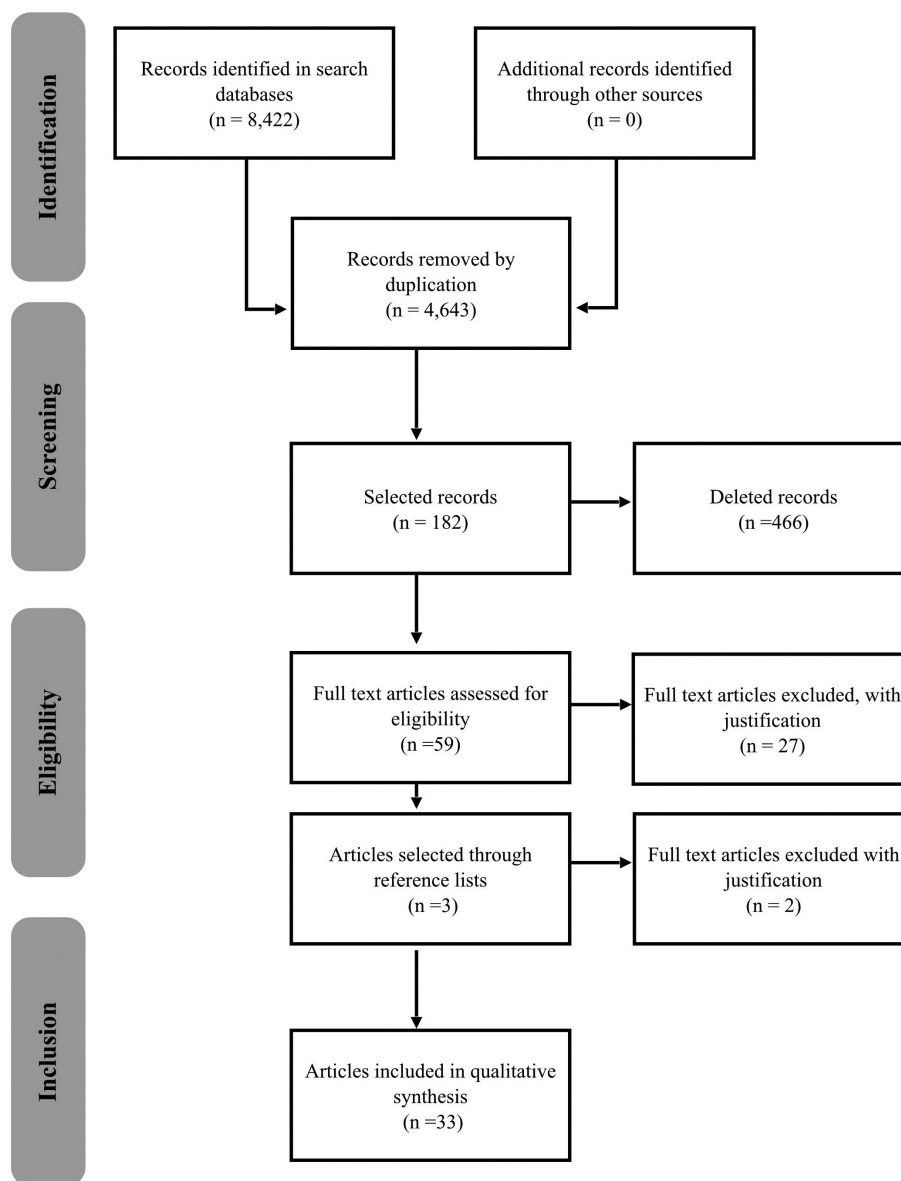


Figure 1 – PRISMA-ScR flow diagram of the review publications selection process, Brazil, 2021.

Chart 2 – Publications included in this scoping review by title, journal and year of publication – Brazil, 2021.

Citation	Title	Journal	Year
Bendau A et al. ⁽⁷⁾	Associations between COVID-19 related media consumption and symptoms of anxiety, depression and COVID-19 related fear in the general population in Germany	European Archives of Psychiatry and Clinical Neuroscience	2020
Gao J et al. ⁽¹¹⁾	Mental health problems and social media exposure during COVID-19 outbreak	PLoS ONE	2020
Ahmad AR, Murad HR ⁽¹³⁾	The Impact of Social Media on Panic During the COVID-19 Pandemic in Iraqi Kurdistan: Online Questionnaire Study	Journal of Medical Internet Research	2020
WHO ⁽¹⁶⁾	An ad hoc WHO technical consultation managing the COVID-19 infodemic: call for action, 7–8 April 2020	World Health Organization	2020
Kulkarni P et al. ⁽¹⁸⁾	COVID-19 Infodemic overtaking Pandemic? Time to disseminate facts over fear	Indian Journal of Community Health	2020
OPAS ⁽¹⁹⁾	<i>Entendendo a infodemia e a desinformação na luta contra a COVID-19</i>	<i>Organização Pan-Americana de Saúde</i>	2020
Patel MP et al. ⁽²⁰⁾	“Infodemic” of COVID 19: More pandemic than the virus	Indian Journal of Nephrology	2020
Singh P et al. ⁽²¹⁾	Association Between Generalized Anxiety Disorder Scores and Online Activity Among US Adults During the COVID-19 Pandemic: Cross-Sectional Analysis	Journal of Medical Internet Research	2020
Lee JJ et al. ⁽²²⁾	Associations Between COVID-19 Misinformation Exposure and Belief With COVID-19 Knowledge and Preventive Behaviors: Cross-Sectional Online Study	Journal of Medical Internet Research	2020
Riehm KE et al. ⁽²³⁾	Associations Between Media Exposure and Mental Distress Among U.S. Adults at the Beginning of the COVID-19 Pandemic	American Journal of Preventive Medicine	2020
Pan Y et al. ⁽²⁴⁾	Associations of Mental Health and Personal Preventive Measure Compliance With Exposure to COVID-19 Information During Work Resumption Following the COVID-19 Outbreak in China: Cross-Sectional Survey Study	Journal of Medical Internet Research	2020
Ko NY et al. ⁽²⁵⁾	COVID-19 related information sources and psychological well-being: An online survey study in Taiwan	Brain, Behavior, and Immunity	2020
Nekliudov NA et al. ⁽²⁶⁾	Excessive Media Consumption About COVID-19 is Associated With Increased State Anxiety: Outcomes of a Large Online Survey in Russia	Journal of Medical Internet Research	2020
Sasaki N et al. ⁽²⁷⁾	Exposure to media and fear and worry about COVID-19	Psychiatry and Clinical Neurosciences	2020
Sun Z et al. ⁽²⁸⁾	Factors Influencing Rumour Re-Spreading in a Public Health Crisis by the Middle-Aged and Elderly Populations	International Journal of Environmental Research and Public Health	2020
Hou F et al. ⁽²⁹⁾	Gender differences of depression and anxiety among social media users during the COVID-19 outbreak in China: a cross-sectional study	BMC Public Health	2020
Lin CY et al. ⁽³⁰⁾	Investigating mediated effects of fear of COVID-19 and COVID-19 misunderstanding in the association between problematic social media use, psychological distress, and insomnia	Internet Interventions	2020
Liu C, Liu Y ⁽³¹⁾	Media Exposure and Anxiety during COVID-19: The Mediation Effect of Media Vicarious Traumatization	International Journal of Environmental Research and Public Health	2020
Liu M et al. ⁽³²⁾	Media exposure to COVID-19 information, risk perception, social and geographical proximity, and self-rated anxiety in China	BMC Public Health	2020
Chao M et al. ⁽³³⁾	Media use and acute psychological outcomes during COVID-19 outbreak in China	Journal of Anxiety Disorders	2020
Zhong B et al. ⁽³⁴⁾	Mental health toll from the coronavirus: Social media usage reveals Wuhan residents’ depression and secondary trauma in the COVID-19 outbreak	Computers in Human Behavior	2021
Ni MY et al. ⁽³⁵⁾	Mental Health, Risk Factors, and Social Media Use During the COVID-19 Epidemic and Cordon Sanitaire Among the Community and Health Professionals in Wuhan, China: Cross-Sectional Survey	JMIR Mental Health	2020
Ermolaev VV et al. ⁽³⁶⁾	Psychological features of social fears associated with the COVID-19 content of news feed in Russia	EurAsian Journal of BioSciences	2020
Dong W et al. ⁽³⁷⁾	Public Emotions and Rumors Spread during the COVID-19 Epidemic in China	Journal of Medical Internet Research	2020
Bilal et al. ⁽³⁸⁾	Role of electronic media in mitigating the psychological impacts of novel coronavirus (COVID-19).	Psychiatry Research	2020
Anwar A et al. ⁽³⁹⁾	Role of Mass Media and Public Health Communications in the COVID-19 Pandemic	Cureus	2020
O’Brien M et al. ⁽⁴⁰⁾	Social media spread during COVID-19: The pros and cons of likes and shares	Irish Medical Journal	2020
Sigurvinsdottir R et al. ⁽⁴¹⁾	The Impact of COVID-19 on Mental Health: The Role of Locus on Control and Internet Use	International Journal of Environmental Research and Public Health	2020

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Zakout YM et al. ⁽⁴²⁾	The magnitude of COVID-19 related stress, anxiety and depression associated with intense mass media coverage in Saudi Arabia	AIMS Public Health	2020
Yao H ⁽⁴³⁾	The more exposure to media information about COVID-19, the more distressed you will feel	Brain, Behavior, and Immunity	2020
Garfin DR et al. ⁽⁴⁴⁾	The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure	Health Psychology	2020
Liu J, Tong EMW ⁽⁴⁵⁾	The relation between official whatsapp-distributed COVID-19 news exposure and psychological symptoms: Cross-sectional survey study	Journal of Medical Internet Research	2020
Pahayahay A, Khalili-Mahani N ⁽⁴⁶⁾	What Media Helps, What Media Hurts: A Mixed Methods Survey Study of Coping with COVID-19 Using the Media Repertoire Framework and the Appraisal Theory of Stress	Journal of Medical Internet Research	2020

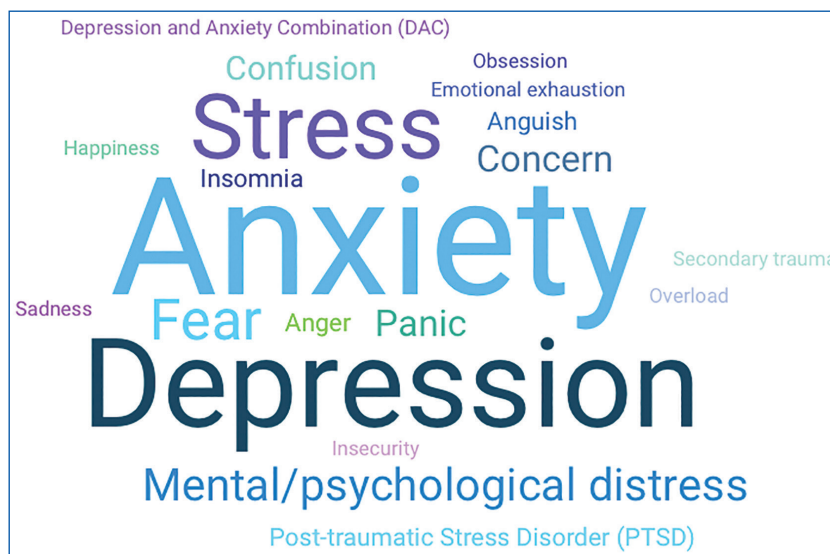


Figure 2 – Word cloud of frequent signs and symptoms in publications, Brazil, 2021.

Chart 3 – Main recommendations for combating the COVID-19 infodemic verified in publications – Brazil, 2021.

<p>For the population:</p> <ul style="list-style-type: none"> – Limit sources and time spent accessing information on digital social networks; – Prioritize physical activities and family time; – Use digital social networks to maintain contact and social support; – Search for information sources with updated and safe guidelines; – Search for information in public health authorities in the country; – Ensure the veracity of information before sharing; – Report rumors and false news.
<p>For health professionals:</p> <ul style="list-style-type: none"> – Use telehealth for interventions related to mental health; – Disseminate information to the population during home visits and by telecommunication; – Promote the mental health of citizens during the pandemic; – Know the effects of the infodemic on mental health; – Promote health education, health literacy and digital health literacy.
<p>For content producers:</p> <ul style="list-style-type: none"> – Develop and support reliable sources of information; – Develop technologies for information checking; – Monitor and filter false information through cross collaborations; – Protect the population against excessive exposure to information; – Disseminate information about people who have recovered from the disease; – Convey help and guidance messages; – Combat sensational information and the dissemination of disturbing images; – Promote information campaigns on digital hygiene; – Support health education actions and increase health literacy.
<p>For managers:</p> <ul style="list-style-type: none"> – Develop policies to increase digital health literacy; – Provide mental health support through online devices; – Provide up-to-date information about the pandemic; – Develop and make available sources of reliable and trustworthy information; – Create resources to verify facts and control misinformation; – Establish communication with search engines, social networks and digital companies to delete false messages and promote accurate information from reliable sources.

participants in 78.3% of the surveys ($n = 23$). The dominant age group was people between 31 and 40 years old in 45.4% of the studies ($n = 22$), while the level of education that most prevailed was higher education or more in 90.4% of the analyzes ($n = 21$). We found that 50% of the studies were carried out in March and April 2020 ($n = 22$). Of the eight studies that indicated the time of exposure to information about COVID-19, 50% reported that the population was exposed between 1 and 3 hours a day.

Figure 2 represents the signs and symptoms identified in the selected publications, presenting them according to the frequency they appeared. Considering the 33 publications included in this review, we observed that anxiety (69.7%), depression (51.5%), stress (36.4%) and fear (21.2%) were the signs and symptoms related to the most frequent infodemic in publications. In Chart 3, we gather the main recommendations for combating the COVID-19 infodemic.

Considering that one of the purposes of this scoping review is to inform the needs of future research, we list those pointed out by the analyzed publications: need to develop longitudinal studies, demonstrating the repercussions of the infodemic on adult and elderly mental health; research that addresses the causal relationships between overexposure and the development of mental health-related problems; research aimed at the repercussions on mental health, specifically in the elderly population; studies involving psychiatric diagnosis and the relationship with the infodemic; development of a scale to specifically assess how the infodemic affects the population's mental health; understand which types of media affect mental health and in which age group; assess the impacts of the infodemic on mental health, considering the different cultural and socioeconomic contexts; studies that investigate which age group is more likely to share misinformation establishing a causal relationship.

DISCUSSION

This scoping review enabled mapping the main repercussions of the infodemic on adult and elderly mental health, in addition to the main suggestions and recommendations to mitigate the effects of the infodemic on population's mental health.

Most of the published studies were of Chinese origin, which may be related to the country of origin of the new coronavirus and because it is a country that has been advancing in the production and dissemination of scientific research on the subject⁽⁴⁷⁾. Moreover, there was a predominance of cross-sectional studies, carried out online and in the first half of 2020, due to the need for quick assessments, due to the fact that we are going through the pandemic and also due to social distancing.

However, longitudinal studies are needed to understand how the infodemic affected adult and elderly mental health throughout the pandemic^(24,33). From this, it will be possible to establish new strategies to combat this information epidemic, as well as reduce the impacts of future pandemics on the world population's mental health^(24,41).

When considering that women were predominant in the surveys, it was found that this is a common feature of studies carried out online, and is often related to the form of dissemination through social media, which are generally more used by women^(26,34,46). This can also be associated with age groups and the predominant level of education, considering that younger

and more educated people have more access and ease to deal with social media and online surveys, when compared to older or less educated people^(7,11,22,25-26).

It was found that the signs and symptoms related to mental health affect female and younger people with greater frequency and intensity^(11,13,26,29,32,41-42). The higher level of education was directly related to the chance of developing anxiety and depression, due to the search for information about COVID-19, in addition to the level of education being related to the understanding of the severity of the current situation^(11,29,32).

As a large part of the studies presented selection bias, in which the elderly population was a minority, more specific studies with this population are needed. It is necessary to understand how the infodemic is having an impact on elderly's mental health, taking into account the difficulties in accessing and using technologies, as well as the difficulties in critically evaluating the information received⁽²⁸⁾.

Based on the signs and symptoms related to the infodemic that appeared in the included publications and were described in the word cloud, we observed that anxiety is predominant, appearing in 23 publications (69.7%), followed by depression (51.5%), stress (36.4%) and fear (21.2%). These results reinforce the idea that excessive exposure to information is directly related to the development of mental health problems⁽⁷⁾. However, it is not only the exposure that triggers the signs and symptoms, the exposure time and the information sources also play a fundamental role in the development of anxiety, depression, stress, fear, among other symptoms^(7,18,25).

Time of exposure to information conveyed by digital social networks was also associated with increased anxiety, depression, stress and mental distress^(7,21,23-24,26,35). However, it is not only exposure time that triggers psychological distress, the information content also negatively impacts people's mental health^(22,38,44). Linked to this, the search for information on digital social networks was associated with a low level of trust in government authorities^(26,29). Individuals have turned to social media and streaming platforms as a strategy to combat stress and anxiety⁽⁴⁶⁾.

The information sources used by participants influence anxiety and stress levels, and the information conveyed by digital social media and traditional media (television and radio) are linked to the increase in these levels. On the other hand, the information provided by official sources and websites (government authorities) is related to the decrease in these levels^(7,24-25,27,31,33,45). Furthermore, information sources also influence news sharing. People tend to share messages from people they trust (family, friends, religious leaders, among others)⁽⁴⁵⁾. However, this is a risk, as it also favors the dissemination of false news, rumors and rumors, if its veracity is not assessed.

People's anxiety level also affects disinformation-spreading behavior. In people with greater anxiety, it is possible to see a decreased ability to discern rumors⁽²⁸⁾. In this sense, the spread of rumors is directly associated with negative feelings, such as anger, sadness and fear. However, when these rumors are refuted, negative feelings turn into positive feelings, mitigating anxiety⁽³⁷⁾.

Digital social media were the most used sources of information to search for information about the COVID-19

pandemic^(7,23,25,29-30) and associated with mental health-related problems such as anxiety, depression, fear, insomnia, worry, confusion, misunderstanding, and secondary trauma^(7,11,18,29-31,34-35,43). However, it is important to highlight that this increase in the use of digital social media is related to the need to enhance communication in the context of social isolation, contributing to the necessary social and emotional support^(31,35,46).

Recommendations to help mitigate the impacts of the infodemic on populations' mental health are necessary and should be shared. The main recommendation is to increase digital health literacy, enabling the development of search, selection, analysis and decision-making skills based on critically assessed information⁽¹⁶⁾. In this aspect, digital social media providers, government authorities and health professionals play an important role in mitigating the effects of the infodemic on adult and elderly mental health. Individuals should reduce media exposure for prolonged periods, avoiding repeated and sensationalist information^(27,44). Encouraging the practice of physical activities and dedicating time to the family are also strategies to minimize the effects of the infodemic on mental health⁽²⁰⁾.

Another aspect to be highlighted is that the algorithmic structure of social media programming further exacerbates the search for information, as when conducting a survey on COVID-19, the software presents other links with similar subjects, which contributes to increasing access to information that may not be of optimal quality or adequate and distort risk perception⁽⁴⁰⁾. However, this can be used by public agencies as a way to minimize the spread of misinformation. WHO, in partnership with Facebook, implemented on the platform the strategy of directing users looking for information about the coronavirus to the organization's page, through a link, through a pop-up⁽¹⁶⁾.

In Singapore, the government created an official communication channel through WhatsApp, through subscription, in order to make communication with the population more effective. The channel offers daily updates on cases, to demystify rumors, disseminate new knowledge, describe infection control measures, among others, through short and objective messages. Government channel users had lower depression, stress and anxiety scores when compared to non-users⁽⁴⁵⁾. The use of media to lessen the effects of the infodemic has proven to be an efficient strategy^(16,40).

It is essential to understand how the dissemination and sharing of information happens, to identify where it originates, how it spreads, who accesses and shares it, and thus influence individuals to improve information behavior and promote specific interventions⁽¹⁶⁾. From this, it is important that individuals confirm the source and, in case of doubts about the information, not share it, opting for information sources disclosed by government agencies⁽¹⁹⁾.

The pandemic and the infodemic are causing many impacts on populations' mental health⁽¹¹⁾. In this sense, it is very important that social media, society, governments and health professionals work collaboratively to face this situation, taking responsibility for what they disseminate and share⁽¹⁹⁾. Furthermore, it is essential to develop actions focused on populations' mental health and monitor changes of this nature during the pandemic period^(20,32,36,39).

Some limitations must be considered in this study. As this is a scoping review, there was no assessment of the quality of the available evidence, and it is not possible to assess the implications for practice. Most of the studies included in this scoping review are cross-sectional, which does not allow for long-term conclusions. In addition to this, as most articles were published in 2020, there is little evidence on the long-term repercussions of the infodemic on populations' mental health, requiring longitudinal and experimental studies to produce better levels of evidence. It is also important to consider the different nationalities of populations, as the impact may be absorbed differently based on government models, health systems, religious and cultural beliefs in each country.

CONCLUSION

The need to know the repercussions on the adult and elderly mental health exposed to the COVID-19 infodemic are essential for the development of interventions that can mitigate such repercussions. However, currently, there is an impasse to be considered, since, on the one hand, the means of communication are very important to spread information to the population and enable social connection, on the other hand, it can intensify the isolation process, causing individuals to become increasingly exposed to social media and subject to the effects of the infodemic.

This review mapped the available information about the repercussions of the infodemic on adult and elderly mental health. It was identified that anxiety is very present in this context and that young adults and females are the most susceptible to the effects of the infodemic on mental health today. Furthermore, it was possible to map strategies to minimize the effects of the infodemic on mental health and identify relevant issues to guide future research.

Finally, the results presented are not indisputable and may change with advances in scientific discoveries. The studies included in this review support future studies to investigate the repercussions that the infodemic has on individuals' mental health in the medium and long term, as well as to assess effects, feasibility, cost-effectiveness and significance of interventions for population groups in local health services and in countries. We hope that the gaps presented here can contribute to the development of new research with robust methodological designs, aimed at producing scientific evidence on the consequences of the infodemic associated with mental health.

RESUMO

Objetivo: mapear o conhecimento científico sobre as repercussões da infodemia na saúde mental de adultos e idosos no contexto da pandemia de COVID-19. **Método:** trata-se de uma revisão de escopo, desenvolvida na metodologia do Joanna Briggs Institute (JBI), que incluiu 33 artigos. Esses artigos foram analisados segundo média de faixa etária, sexo e nível de escolaridade; local e período de realização dos estudos;

tempo de exposição a informações sobre COVID-19; principais sinais e sintomas relacionados à saúde mental; principais fontes de informação; sugestões para mitigar os efeitos da infodemia; e lacunas de conhecimento. **Resultados:** as repercussões da infodemia na saúde mental de adultos e idosos mais presentes foram ansiedade, depressão e estresse, e o grupo mais afetado foi o de jovens adultos e do sexo feminino. **Conclusão:** são necessários estudos futuros com desenhos mais robustos para investigar as repercussões da infodemia na saúde mental das pessoas a médio e longo prazos, assim como para avaliar efeitos, viabilidade, custo-benefício e significado de intervenções em grupos populacionais, especialmente na população idosa.

DESCRITORES

Comunicação em Saúde; Saúde Mental; Informação; Disseminação de Informação; Adulto; Idoso.

RESUMEN

Objetivo: mapear el conocimiento científico sobre las repercusiones de la infodemia en la salud mental de adultos y ancianos en el contexto de la pandemia de COVID-19. **Método:** se trata de una revisión de alcance, desarrollada utilizando la metodología del Instituto Joanna Briggs (JBI), que incluyó 33 artículos. Estos artículos fueron analizados según edad promedio, género y nivel educativo; lugar y período de los estudios; tiempo de exposición a la información de COVID-19; principales signos y síntomas relacionados con la salud mental; principales fuentes de información; sugerencias para mitigar los efectos de la infodemia; y las lagunas de conocimiento. **Resultados:** las repercusiones más presentes de la infodemia en la salud mental de adultos y ancianos fueron la ansiedad, la depresión y el estrés, y el grupo más afectado fue el de adultos jóvenes y mujeres. **Conclusión:** se necesitan estudios futuros con diseños más robustos para investigar las repercusiones de la infodemia en la salud mental de las personas a mediano y largo plazo, así como evaluar los efectos, factibilidad, costo-beneficio e importancia de las intervenciones en grupos poblacionales. especialmente en la población anciana.

DESCRIPTORES

Comunicación en Salud; Salud Mental; Información; Disseminación de Información; Adulto; Anciano.

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