Stressors and protective factors of the COVID-19 pandemic in the mental health of the world population: an integrative review

Fatores estressores e protetores da pandemia da Covid-19 na saúde mental da população mundial: uma revisão integrativa

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ABSTRACT This paper aimed to analyze the mental health protective factors and stressors of the pandemic in Brazil and internationally. We conducted an integrative literature review by searching for scientific publications indexed in the LILACS and MEDLINE databases from January to December 2020. Twenty-nine papers have been analyzed by author, year, country of study, methodology; mental health stressors and protective factors related. We concluded that people subjected to restrictive measures imposed by the COVID-19 pandemic are vulnerable to mental health problems. However, very few studies have evaluated the related psychosocial factors despite the global impact.

KEYWORDS Mental health. Social isolation. COVID-19.

RESUMO *Este artigo visou analisar os fatores protetores e estressores da pandemia na saúde mental no Brasil e internacionalmente. Foi realizada uma revisão integrativa da literatura a partir da busca por publicações científicas indexadas nas bases de dados Literatura Latino-Americana e do Caribe em Ciências da Saúde (Lilacs) e Medical Literature Analysis and Retrieval Sistem on-line (Medline) no período de janeiro a dezembro de 2020. Foram analisados 29 artigos por autor, ano, país de estudo, metodologia; fatores estressores e protetores relacionados com a saúde mental. Conclui-se que pessoas que são submetidas às medidas restritivas impostas pelo período de pandemia da Covid-19 se mostram vulneráveis a problemas de saúde mental. Porém, apresar do impacto global, ainda são poucos os estudos que avaliaram os fatores psicossociais relacionados.*

PALAVRAS-CHAVE *Saúde mental. Isolamento social. Covid-19.*

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Introduction

On January 30, 2020, the World Health Organization (WHO) announced the outbreak of the new Coronavirus (2019-nCoV) as a Public Health Emergency of International Concern, in which all countries have implemented measures to control and combat the COVID-19 disease. Researchers and health professionals have played a challenging role in this pandemic since the disease does not have a wholly defined clinical risk, and the accuracy of the transmission, infection, lethality, and mortality patterns is unknown[2].

Brazil recorded the second-highest number of accumulated cases (11,950,459) globally in Epidemiological Week 11, on March 20, 2021. Considering the level of incidence, the country had a rate of 56,435.1 cases for every 1 million inhabitants, ranking 27th among countries with the highest incidence (cases of COVID-19 per 1 million inhabitants). The mortality coefficient stood at 138.2 deaths per 100 thousand inhabitants, ranking 17th in the world for mortality by COVID-19. However, we should emphasize that each country is in a specific pandemic stage, where some are experiencing a significant increase in cases, as in Brazil[3].

In the COVID-19 Weekly Epidemiological Update published on March 28 by the WHO, the number of deaths worldwide increased for the second consecutive week, with a growth of 5% against the previous week. The most considerable number of new cases was from Brazil (5,533,024, growth of 5%), followed by the United States (421,936, growth of 13%), and India (372,494, growth of 55%)[4].

Besides the physical symptoms caused by the infection, the virus circulation affects people's mental health, generating anxiety and depression[5]. The fear of the unknown, the spread of the disease, and the impact on the economy exacerbate the anxiety of individuals with pre-existing mental health conditions and healthy individuals alike, as people tend to feel anxious and insecure when the environment changes[6].

So far, social distancing is the most effective measure to control the pandemic, conducted through quarantine and vaccines[7]. Thus, further investigation of the psychological effects of this protection measure on the lives of those in social distancing is necessary. Moreover, we should emphasize that the approach of psychological aspects assists in the adherence to control measures such as quarantine[8,9].

Despite the strong relevance of psychological aspects in the population, the participation of professionals in mental health in projects related to a pandemic outbreak remains quite limited[9]. Furthermore, quarantine – used for infection control – has received little attention in the literature regarding its psychological effects.

Although the psychological reactions of the population play a critical role in the spread of disease and social disorder during and after the outbreak, the necessary resources are generally not provided to reduce the effects of the impact of pandemics on mental health[8].

Based on this assumption, this paper aims to analyze the Brazilian and international literature on the effects of the COVID-19 pandemic on the mental health of adults to understand the protective factors and stressors associated with the pandemic and reflect on possible mental health intervention strategies.

Methods

This integrative review of the literature on mental health in the pandemic promotes the synthesis of knowledge through six stages underlying the elaboration process: producing the guiding question; literature search; data collection; critical analysis of the included papers; discussion of results; and, finally, presenting the integrative review[10]. The guiding questions are: 'What aspects affect

the mental health of adults because of the COVID-19 pandemic? What are the protective factors and stressors of mental health in the COVID-19 pandemic?'.

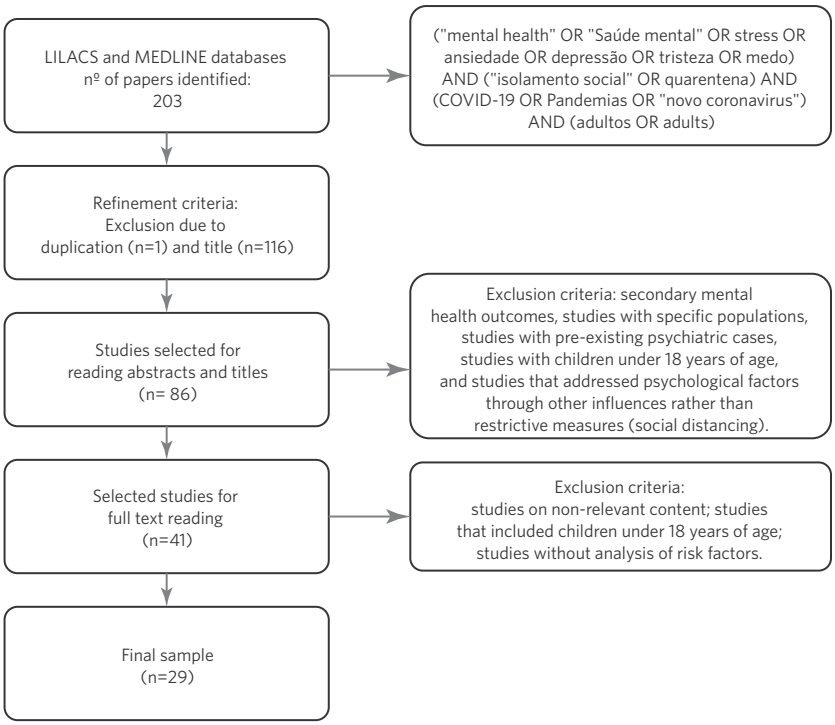
We collected data from secondary sources, through a survey of papers in the Latin American and Caribbean Health Sciences Literature (LILACS) and Medical Literature Analysis and Retrieval System Online (MEDLINE) databases, from January to December 2020, the year the new Coronavirus was recognized as a pandemic. We selected papers in English, Portuguese, and Spanish.

The following descriptors were used to search for scientific studies corresponding to the objectives of this integrative review: "Saúde mental", "Isolamento social" AND "Covid-19", selected according to the Descriptors in Health Sciences (DeCS) and Medical Subject Headings (MeSH/PubMed). All were cross-referenced with each other by Boolean operators AND/OR. The search terms were ("mental health" OR "Saúde mental" OR "stress" OR "ansiedade" OR "depressão" OR "tristeza" OR "medo") AND ("isolamento social" OR "quarentena") AND ("COVID-19" OR "pandemias" OR "novo coronavirus") AND ("adultos" OR "adults").

The following inclusion and exclusion criteria were used for the selection of papers. Papers that address mental health in the COVID-19 pandemic as the central theme, published in the databases in the defined period in Portuguese, English, or Spanish, were included. The purposeful exclusion criteria were the following: 1. papers that do not address mental health, pandemic, and social restriction; 2. studies that do not address the relationship between psychological factors and restrictive measures; 3. studies in which only secondary results address the issue of mental health; 4. studies carried out with specific populations; surveys with people under 18 years of age; 5. studies with the older adults, subjects with chronic diseases or severely hospitalized subjects.

The search result summary in the researched databases is systematized in the flowchart below (*figure 1*). When starting the full-text reading of the papers, we noted that 12 of them did not meet the review's objective and were, thus, excluded from the study, leaving out 29 full-text papers for the critical analysis.

Figure 1. Flowchart for selecting the studies that made up the sample



Source: Own elaboration.

Results

Seventeen countries of the 29 papers that make up this review were listed, giving a global scale of the pandemic. This mosaic allowed for diversified research on the effects of the pandemic on mental health from a global perspective, comparing the protective factors and stressors cited in different world regions.

Among the articles selected for the review, seven were from Spain; China and India each had three; the United Kingdom and the United States each had two; and Brazil, Italy, Lebanon, New Zealand, Kuwait, Jordan, Colombia, Canada, Germany, Belgium, Austria, and Ecuador each had one. Most works were quantitative cross-sectional studies due to the need to produce data to assist in planning COVID-19 coping actions. However, cross-sectional studies prevent the use of causal inferences, generating only a hypothesis of possible associations. All studies included subjects of both sexes.

Two thematic lines were established as emerging categories in the analysis of the papers: 1. Mental health stressors; 2. Mental health protective factors. Each paper was analyzed by year of publication, journal, and country of study according to these lines. Moreover, the objectives of each study are also presented. The items mentioned above are systematized in *table 1*.

Table 1. Analysis and systematization of the papers underpinning the integrative review

Author Country/ Region Journal	Methodology Methods Studied population	General Objective	Line 1: Mental health-related stressors	Line 2: Mental health-related protective factors
Smith et al. (2020) United Kingdom Psychiatry Res	Quantitative cross-sectional study n= 932 United Kingdom residents >18 years, both sexes	Assess the impact of COVID-19 social distancing on mental health.	Female, younger age, lower annual income, smoker, and physical multimorbidity.	Male, older age, higher annual income, non-smoker, and no physical multimorbidity.
Duarte et al. (2020) Brazil Ciênc. Saúde Colet.	Quantitative cross-sectional study n= 799 Rio Grande do Sul residents 18-75 years, both sexes	To verify the factors associated with indicators of mental disorders symptoms in Rio Grande do Sul residents.	Female, younger age, previous diagnosis of mental disorder, non-health worker, reduced income in the period, part of the risk group, and greater exposure to information about COVID-19.	Male, older age, not having a diagnosis of mental disorder, health professional, not having economic losses, not being from the risk group, and suffering less exposure to information about COVID-19.
Mazza et al. (2020) Italy Int. j. environ. res. public health (Online)	Quantitative cross-sectional study n=2,766 Italy residents >18 years, both sexes	To establish the prevalence of psychiatric symptoms and identify risk and protective factors for psychological distress in the general population.	Female, younger age, no children, negative affect, detachment, history of stressful situations, history of medical problems, having an acquaintance infected with COVID-19, working outside the home.	Male, older age, with children, positive affect, not having a clinical history, not having infected acquaintances, home office work.
Lei et al. (2020) China Med Sci Monit	Quantitative cross-sectional study n=1,593 Southwest China residents >18 years, both sexes	To assess and compare the prevalence and associated factors of anxiety and depression among the public affected by quarantine and those not affected during the COVID-19 outbreak.	Female, younger age, student, divorced, widowed or single, low household income, low schooling, poor self-perception of health, greater concern about being infected, elevated level of self-assessment of knowledge about COVID-19, lack of psychological support.	Male, older age, not a student, married, high family income, no economic loss, high schooling level, good self-perception of health, psychological support, or counseling from the community/government agencies.
Fawaz; Samaha (2020) Lebanon Int J Soc Psychiatry	Quantitative cross-sectional study n=950 Lebanon residents >18 years, both sexes	To assess the prevalence of post-traumatic stress symptoms (PTSS) during the COVID-19 quarantine period in Lebanese citizens.	Quarantine practices.	Not applicable (NA).
Verma; Mishra (2020) India Int J Soc Psychiatry	Quantitative cross-sectional study n=354 India residents >18 years, both sexes	To identify the prevalence rates of depression, anxiety and stress and their sociodemographic correlates among the Indian population during the lockdown to contain the COVID-19 spread.	Male, unemployed, alcohol abuse.	Female, employed.
Gopal; Sharma; Subramanyam (2020) India PLoS One	Quantitative longitudinal study (2 months) n=159 > 18 years, both sexes	To investigate how levels of anxiety, stress and depressive symptoms changed during confinement among Indian adults.	Female, history of mental health problems, increased domestic responsibility.	Male, less domestic responsibility, higher resilience levels.

Table 1. (cont.)

Author **Country/ Region** **Journal**	**Methodology** **Methods** **Studied population**	**General Objective**	**Line 1: Mental health-related stressors**	**Line 2: Mental health-related protective factors**
Lee; Cadigan; Rhew (2020) USA J Adolesc Health	Quantitative longitudinal study n=564 Young adults residing in Seattle, WA. 22-29, both sexes	To examine the increasing loneliness in a sample of young adults.	Female, concerns about the impact of COVID-19 on her social relationships.	Male, social support during the pandemic.
Ammar et al. (2020) USA PLoS One	Quantitative cross-sectional study n=1,047 Multicenter study, Asia, Africa, Europe and Americas residents >18 years, both sexes	To assess the emotional and behavioral changes associated with home confinement during the COVID-19 outbreak.	Weakening of physical and social contacts with disruption of normal lifestyles risk groups, living in congregated environments, substance use problems, pre-existing psychiatric problems.	No psychiatric and chemical addiction history.
Losada-Baltar et al. (2020) Spain Rev Esp Geriatr Gerontol	Quantitative cross-sectional study n=1,501 Spain residents 18-88 years, both sexes	To analyze differences, based on age and self-perception of aging, in anxiety, sadness, loneliness and comorbidities during confinement due to COVID-19.	Younger age, negative self-perception about own aging.	Older age, especially middle age.
Guo et al. (2020) China J Med Internet Res	Quantitative cross-sectional study n=2,331 China residents >18 years, both sexes	To estimate the prevalence of anxiety and depressive symptoms and to identify associated demographic and psychosocial factors in the Chinese population during the COVID-19 pandemic quarantine period.	Younger age, living alone, having monetary loss, concerns about infection, sedentary behavior, poor sleep quality, living with cancer or other chronic illnesses, or having family members with cancer.	Older age, living with other people, physical activity, not having comorbidities, connection and social support.
Every-Palmer et al. (2020) New Zealand PLoS One	Quantitative cross-sectional study n=2,010 New Zealand residents 18-90 years, both sexes	To assess levels of psychological distress, anxiety, well-being, suicidal ideation, alcohol consumption and family relationships.	Younger age, living alone, unemployment or reduced work, health problems and previous diagnoses of mental illness.	Older age, enjoying working from home, spending more time with the family, flexibility at work, social cohesion, creating healthy habits.
Hidalgo et al. (2020) Spain Int. j. environ. res. public health	Sequential exploratory design (mixed research) Qualitative stage n=40 Quantitative stage n=6,789 Spain residents >18 years, both sexes	To analyze the psychological impact of the COVID-19 pandemic and the lockdown on the Spanish population and identify which population profiles were most affected.	Female, younger age, mother, low or medium socioeconomic status.	Male, middle-aged, higher socioeconomic status.
Pérez-Fuentes et al. (2020) Spain PLoS One	Quantitative cross-sectional study n=1,014 Spain residents 18-76, both sexes.	To analyze the effect of exceptionally stressful situations, such as current health risk, on an individual's cognitive and emotional state.	Greater perception of threat and susceptibility to disease.	Lower perception of threat and susceptibility to disease.

Table 1. (cont.)

Author Country/ Region Journal	Methodology Methods Studied population	General Objective	Line 1: Mental health-related stressors	Line 2: Mental health-related protective factors
Burhamah et al. (2020) Kuwait J Affect Disord	Quantitative cross-sectional study n=4,132 Kuwait residents >18 years, both sexes	To assess the impact of the COVID-19 outbreak on mental health in Kuwait and explore the influence of risk factors.	Female, younger age (<30), single, job loss, financial stress, previous psychiatric history, smokers, having family members with COVID-19, healthcare professional, increased use of social media and information about COVID-19, fear of infection.	Male, older age, satisfaction with the government, confidence in the country's care standards, retired.
Ozamiz-Etxebarria et al. (2020) Spain Cad Saude Publica	Exploratory descriptive cross-sectional study n=976 Basque Autonomous Community residents >18 years, both sexes	To measure levels of stress, anxiety and depression in a sample of the Basque Autonomous Community.	Younger age, chronic diseases, confinement.	Older age, no chronic diseases.
Massad et al. (2020) Jordan East Mediterr Health J	Quantitative cross-sectional study n=5274 Jordan residents >18 years, both sexes	To estimate the prevalence of quarantine-related anxiety and its socioeconomic correlates.	Female, younger, more members living in the house, low social support, low income.	Older age, greater support and social network, and higher income.
Martínez et al. (2020) Colombia Med. U.P.B	Systematic review n=16	To conduct a systematic review of research trends on symptoms of mental disorders during the COVID-19 pandemic.	Female, younger age, consumption of psychoactive substances, low school performance, job loss, poor sleep quality, poor self-care and low perception of health status during the pandemic.	Male, older age, employed, satisfactory self-care.
Nelson et al. (2020) Canada PLoS One	Quantitative cross-sectional study n=2,065 United States, Canada, and Europe residents >18 years, both sexes	To characterize whether current levels of individual transdiagnostic mental health symptoms (i.e., anxiety and depression) are elevated when compared to historical normative data.	Greater concern about COVID-19, greater cases of COVID-19 in the country and in the world, job loss, adherence to strict quarantine recommendations.	Employed, more flexible quarantine measures.
Pandey et al. (2020) India PLoS One	Quantitative cross-sectional study n=1,395 India residents 18-73 years, both sexes	To explore the degree of psychological distress in terms of Depression, Anxiety and Stress among the adult population of India during the mandatory 21-day lockdown.	Female, younger age, single, longer lockdown time, concerns related to disease morbidity and mortality, lower schooling level.	Male, older age, married or divorced, shorter lockdown time, higher schooling level.
Peng et al. (2020) China J Affect Disord	Quantitative cross-sectional study n=2,237 Residents of de Shenzhen, China, with unconfirmed COVID-19 infection 18-70 years, both sexes	To assess the prevalence and clinical correlates of depressive symptoms in the general population quarantined during the COVID-19 outbreak.	Younger age, single, lower schooling level, poor sleep quality.	Older age, married, higher schooling level, good sleep quality.

Table 1. (cont.)

Author **Country/ Region** **Journal**	**Methodology** **Methods** **Studied population**	**General Objective**	**Line 1: Mental health-related stressors**	**Line 2: Mental health-related protective factors**
Becerra-García et al. (2020) Spain Rev. esp. salud publica	Quantitative cross-sectional study n=151 Spain residents 18-76 years, both sexes	To analyze the differences in the psychopathological symptoms of the Spanish population during the COVID-19 quarantine based on sociodemographic, environmental and occupational variables.	Younger age (<35), unemployed, acquaintances and relatives with COVID-19, not practicing sports, living alone, devoting little time to pandemic information (<30 minutes).	Older age, employed, not having acquaintances and relatives with COVID-19, practicing sports daily, living with more than two people, dedicating more time to information about the pandemic.
Benke et al. (2020) Germany Psychiatry Res	Quantitative cross-sectional study n=4,335 Germany residents 18-95 years, both sexes	To identify potential predictors for the immediate mental health consequences of the COVID-19 pandemic.	Female, younger age, lower schooling level, unemployed, single, living alone, living without children, current or past psychiatric and psychological treatments, being in self-quarantine, belonging to a COVID-19 risk group, more restrictive public health measures.	Female, advanced age, higher schooling level, formal employment, living with a partner, living with children, not having a history of psychotherapeutic or psychiatric treatment.
Glowacz; Schmits (2020) Belgium Psychiatry Res	Quantitative cross-sectional study n=2,871 Unspecified sample 18-85 years, both sexes	To measure psychological distress related to the COVID-19 crisis, public health measures for containment and provide health intervention policies.	Younger age, proximity to contamination in young people, social media use overload, intolerance of uncertainty, higher levels of occupational activities in older people.	Older age, tolerance of uncertainty, lower occupational activities in older people.
Pieh et al. (2020) Austria PLoS One	Quantitative cross-sectional study n=1,005 Austria residents >18 years, both sexes	To assess mental health during the COVID-19 lockdown in Austria and the effect of age, gender, income, work, and physical activity.	Female, younger age (adults under 35 years old), people without work, and low income.	Male, older age, economically active, physical activity.
Bu; Steptoe; Fancourt (2020) United Kingdom Public Health	Quantitative cross-sectional study with paired samples before (n=31,064) and during (n=60,341) United Kingdom residents > 18 years, both sexes	To compare sociodemographic predictors of loneliness before and during the COVID-19 pandemic.	Female, young adults, student, people with less education or income, economically inactive, people living alone and residing in urban areas, minority ethnic groups.	Male gender, older age, more educated and economically active people, people who do not live alone, living in rural areas, majority ethnic groups (white).
Paz et al. (2020) Ecuador PLoS One	Quantitative cross-sectional study n=759 Subjects who were part of the epidemiological surveillance program in Ecuador >18 years, both sexes	To identify behaviors during confinement and sociodemographic variables associated with the mental health status of confirmed or suspected COVID-19 patients.	Female, being from the coast of Ecuador.	Engaging in physical activity, having a daily routine, and spending an hour or less daily searching for information.
López-Carral; Grechuta; Verschure (2020) Spain PLoS One	Online experiment and quantitative cross-sectional study n=112 Residents of 17 countries (53.57% in Spain)	To assess the effects of quarantine-induced mood changes, implicitly measured through subjective ratings of emotional stimuli.	Change of routine, negative perception of the current situation, living alone.	Enjoying working from home, living with other people.

Table 1. (cont.)

Author Country/ Region Journal	Methodology Methods Studied population	General Objective	Line 1: Mental health-related stressors	Line 2: Mental health-related protective factors
Gómez-Salgado et al. (2020) Spain Int. j. environ. res. public health (Online)	Cross-sectional observational study n=4,180 Spain residents >18 years, both sexes	To analyze psychological distress during the COVID-19 pandemic.	Female, younger age, working outside the home in essential activities during the pandemic, being in quarantine, low health perception, presence of symptoms of COVID-19, having close contact with someone infected or suspected of being infected.	Female, older age, better health perception, living with children or children under 16 years of age.

Source: Own elaboration.

Discussion

We understand health not as the lack of disease, but as biopsychosocial well-being, within an integrative vision. Therefore, it is crucial to understand the factors associated with mental health during the COVID-19 pandemic globally. To this end, we chose two major thematic groups for discussing the papers: 1. Mental health stressors; 2. Mental health protective factors.

Mental health stressors in the COVID-19 pandemic

The mental health aspects investigated in the scientific papers were anxiety, depression, stress, loneliness, and mental distress. We have majority consensus on the stressors addressed in the literature regarding gender, age, income and work. Schooling level, sharing housing, previous history of health problems, and marital status were also identified as stressors. Thus, 16 papers (55%) mention women[11-26]; 20 papers (69%), the youngest age[11-14,17-24,26-33]; and 11 papers (38%), unemployment or financial loss[12,18,20,22-24,28,29,33-35]. Moreover, seven papers (24%) mention lower income as stressors[11,12,14,17,19,23,24], while six of them (20%) mention being in the risk group[11-13,28-30,36], living alone[22,24,28,29,33,37] and having a history of mental health problems[12,15,18,22,29,36]. Only 5 papers (17%) indicate low schooling[14,21,22,24,31] and being single[14,18,21,22,31] as factors associated with mental illness.

A study conducted in India pointed out that the time of lockdown may be associated with increased psychological distress[21]. Routine change imposed by restrictive measures[36,37], quarantine[30,38], and greater adherence to stricter recommendations to prevent the spread of the virus[34] were also identified as stressors affecting subjects' mental health. These findings in the review corroborate an initial study that indicated that growing psychological complaints seem to increase with prolonged isolation, in which depressive and anxious symptoms become more susceptible[9].

Only one study in India pointed to males as the most affected the pandemic[35] regarding mental health. The authors argue that a plausible justification for this result, inconsistent with other studies, may be due to the Indian cultural issue: men do not participate in domestic activities and, due to confinement, responsibilities are being shared between couples. As men are not

used to managing their personal, professional, and family lives, the change in the setting may have caused more significant anxiety in this public.

Another stressor was the increase in domestic responsibility. The study showed that women reported a more significant increase in their responsibilities when compared to men[15]. Thus, the intergender difference may be related to societal gender roles. Women who are mothers, for example, may have evidenced higher stress levels due to the interruption of their children's classroom classes[17].

Some justifications were pointed out for the youngest being more vulnerable to mental health problems during the pandemic. Young people are less resilient to adversity and have more difficulties understanding the radical but necessary changes in this pandemic period[26]. Thus, older people are dealing with this atypical situation better than younger people[23], as they are less likely to have psychological problems and are more stable both financially and emotionally[19]. In the younger population, changes in teaching activities, with the new remote teaching format, seem to have affected emotional stability[17] and educational perspectives[32], in which being a student became a more significant stressor during the pandemic than in normal periods[24]. A study conducted in the United Kingdom collected data showing that people already at higher risk of loneliness (young adults, low income, and living alone) experienced an even higher risk during the COVID-19 pandemic[24]. It is worth noting that loneliness can be an essential factor in increasing depressive symptoms during the pandemic. Intervention strategies must address aspects that work with loneliness, especially for those who have experienced more significant disruption in their social circle[16].

Another possible explanation is that younger people may have more access to information about COVID-19 through social media, which can lead to increased stress[28]. A study in Brazil identified that subjects who are more exposed to information about the virus and its victims are at greater risk of having minor mental disorders[12]. Another study of the review conducted in Kuwait identified comparable results, in which higher depression rates were associated with more time devoted to pandemic news[18]. However, researchers from Spain reported that younger adults who spent less time on information had higher hostility, depression, and anxiety rates. Thus, the authors emphasize that lack of and excessive information could be harmful to mental health[33]. Therefore, being informed can be a stressor and a protective factor, depending on the intensity of this consumption[25].

Although several factors cause stress by interfering with the mental health of adults, some papers have identified factors that protect people's mental health. Understanding these factors facilitates the establishment of intervention strategies for the population's public health, which caregiving health professionals can develop, and public health policies within the scope of this pandemic.

Mental health protective factors in the COVID-19 pandemic

The following mental health protective factors stand out during the pandemic: obtaining psychological[14] and social support[16,28,29], high resilience levels[15], greater support and social network[19], tolerance for uncertainty[32], physical activity[23,25,33] and being employed/being economically stable[12,14,18,20,22,23,28,29,33-35].

A Chinese paper identified that obtaining psychological and social support is an important strategy to reduce the probability of mental illness generated by loneliness and helplessness that can be exacerbated during quarantine[14]. Connection and social support are protective factors, especially for those who live alone, due to the tendency of loneliness[28]. However, a study conducted in India reported that females' higher stress and anxiety levels than males persisted even after accounting for social support and resilience factors. This finding suggests that gender patterns persist

as stressors even after the protective effects have been exercised[15].

Besides psychological and social resources, physical activity was a strong ally in promoting mental health[23,25,28], in which exercising more than five times a week helped avoid depression and anxiety[18]. Good sleep quality was also a protective factor in the literature[20,28,31].

Enjoying working remotely and having greater flexibility at work were also protective factors[29,37]. A study conducted in Italy pointed out that working outside the home is associated with greater mental distress levels[13]. This issue may be associated with a higher perception of threat and susceptibility to disease when work is conducted in person, while lower threat levels become a protective factor during the pandemic period[39]. Furthermore, studies have shown that the prevalence of anxiety and depression in the COVID-19 positive group is higher than in the group unaffected by the virus[14]. Having people with COVID-19 close was also pointed out as a stressor by the literature[18,26,33].

A study conducted in Brazil identified that being a health professional is 40% less likely to have minor mental disorders. A plausible justification would be greater access to health services and a better understanding of COVID-19[12]. However, another study identified that health professionals are more likely to develop psychological problems due to increased working hours and the need to isolate themselves from family members to avoid contagion[18]. A survey conducted in Spain corroborates this result, as it identified that working outside the home in essential activities during the pandemic is a stressor[26].

Again, regarding work, people with mild and moderate mental illness are twice as likely to lose their jobs, and unemployment rates for subjects with severe mental disorders are five times higher than people without the disorder; important data mentioned in an Austrian paper[23]. Considering the impact of the pandemic on mental health[13], interventions aimed at promoting psychological well-being are increasingly necessary.

Final considerations

People subjected to the restrictive measures imposed by the COVID-19 pandemic are vulnerable to mental health problems. However, few studies have evaluated the related psychosocial factors[28]. Despite a topic of strong relevance and global impact, there is still a knowledge gap on the topic. Research on mental disorders during the pandemic is incipient and scarce, especially considering the scientific productions developed in Latin America[20].

We should assess the diverse groups and their needs to elaborate intervention strategies and public policies in pandemics. For example, young people were considered the most vulnerable in surveys conducted by different countries, and they require attention. Moreover, with a better understanding of risk and protective factors, we recommend that further studies investigate possible coping strategies and self-care practices that can reduce the effects of the pandemic on mental health.

Collaborators

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