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Health professionals' mental health during Covid-19 pandemic

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ABSTRACT

This study aimed to identify the scientific productions about health professionals' mental health during the Covid-19 pandemic. This is a descriptive and exploratory narrative review of literature, realized on January 2021 on the bases of SciVerse Scopus, Medline (via National Library of Medicine - National Institutes of Health – PubMed), and in the portal of Virtual Health Library in the bases of Latin-American Literature and Caribbean Literature on Health Sciences. A total of 1,379 productions were found, of which 31 composed the study corpus. China (n=12; 38.7%) was identified as the country with the most publications and research on mental health in the face of the Covid-19 pandemic. Among the various health issues, depressive and anxiety symptoms were the most present in the productions. Insomnia and fatigue were also identified as the most significant factors in health professionals. Professionals' resilience working in the front line of Covid-19 was significantly higher when compared to the general population. Nursing proved to be the category with higher chances of developing issues such as anxiety, depression, and insomnia. Although the negative aspects were notorious, it was evident that enabling support services and interventions are essential in promoting resilience and adds positively to mental health in the face of the effects of the Covid-19 pandemic.

Keywords: mental health; health personnel; Coronavirus infections; pandemics; Nursing; Review.

INTRODUCTION

Covid-19 is an infectious disease caused by SARS-CoV-2, identified in Wuhan, China in December 2019, which quickly spread around the world and has been declared a global epidemic by the World Health Organization. Because it is an easily transmitted disease, healthcare services and professionals needed to adapt to meet the demand of infected people. In the beginning, little was known about the disease, however, it is now clear that Covid-19 causes severe damage and a high incidence of mortality, including among healthcare workers[1].

Globally, the number of people who have been infected and died from Covid-19 exceeds 4.162.304 cases[2]. in Brazil, more than 549 thousand losses were registered by the Ministry of Health and, of these, 808 are health professionals (nurses, technicians, nursing assistants) who died between March 2020 and June 2021[1].

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Based on the above, it is understood that the health system is facing challenges in the face of the pandemic of the new Coronavirus, especially with the workload of professionals working, in the face of the rapid increase in hospitalizations, causing impacts on their physical and mental health[3,4]. In addition, one can list the working conditions, with exhausting routines, lack of personal protective equipment (PPE), lack of labor, and even lack of basic supplies for the maintenance of patients' lives, which can contribute to the emergence of health problems for workers. Some of these conditions were also observed during other pandemics, such as the Severe Acute Respiratory Syndrome in 2003 and the Coronavirus Respiratory Syndrome outbreak in 2015, which also led a relevant proportion of healthcare workers to mental illnesses, such as depression, anxiety, and symptoms of Post-Traumatic Stress Disorder[4-6].

Recent studies highlight the need to investigate the psychological challenges caused by the pandemic, especially among frontline professionals who are directly involved in patient care as well as more exposed to infection, such as those working in critical care units[4,7]. The presence of symptoms such as depression (50.4%), anxiety (44.6%), insomnia (34%), and anguish (71.5%)8 among health professionals is also considerable. These psychological problems are a reflection of the sense of vulnerability, worries about one's health and that of one's family members in the face of the spread of the virus, as well as the shortage of supplies and increasing flow of suspected and actual cases of Covid-19[8,9].

From this perspective, the following research question was outlined: What scientific productions are available, nationally, and internationally, on the mental health of health professionals in the face of the Covid-19 pandemic?".

Given the damage that the pandemic has been causing in the world, mainly with negative effects on the mental health of health workers, the objective is to characterize the scientific productions and describe their results on the mental health of health workers during the Covid-19 pandemic.

METHODS

This is a narrative review study, of descriptive and exploratory types. Narrative reviews are informed by a broad analysis of the literature and make it possible to gain knowledge of a given subject's state of the art from a theoretical or contextual point of view[10].

The selection of studies was made in January 2021, through the *Comunidade Acadêmica Federada* (CAFe) remote access to the CAPES/MEC journal portal, using a login and password linked to the registered university. It is noteworthy that this means makes it possible to expand, free of charge, access to the results found in the selected databases. Thus, the search was made in the following databases: SciVerse (Scopus), Medline (via National Library of Medicine - National Institutes of Health - PubMed), and in the portal of the Virtual Health Library (BVS) in the Latin American and Caribbean Health Sciences Literature (Lilacs). The search strategy was developed through the Health Science Descriptors (DeCS) and Medical Subject Headings (MESH), with "Mental Health", "Health Personnel" and "Coronavirus Infections", using the Boolean operators AND and OR (Figure 1).

1,379 productions were found, being: 10 in Lilacs, 744 in Medline, and 625 in Scopus. For their selection (Figure 2), the following inclusion criteria were defined: original articles of primary research in which the study population was health professionals,

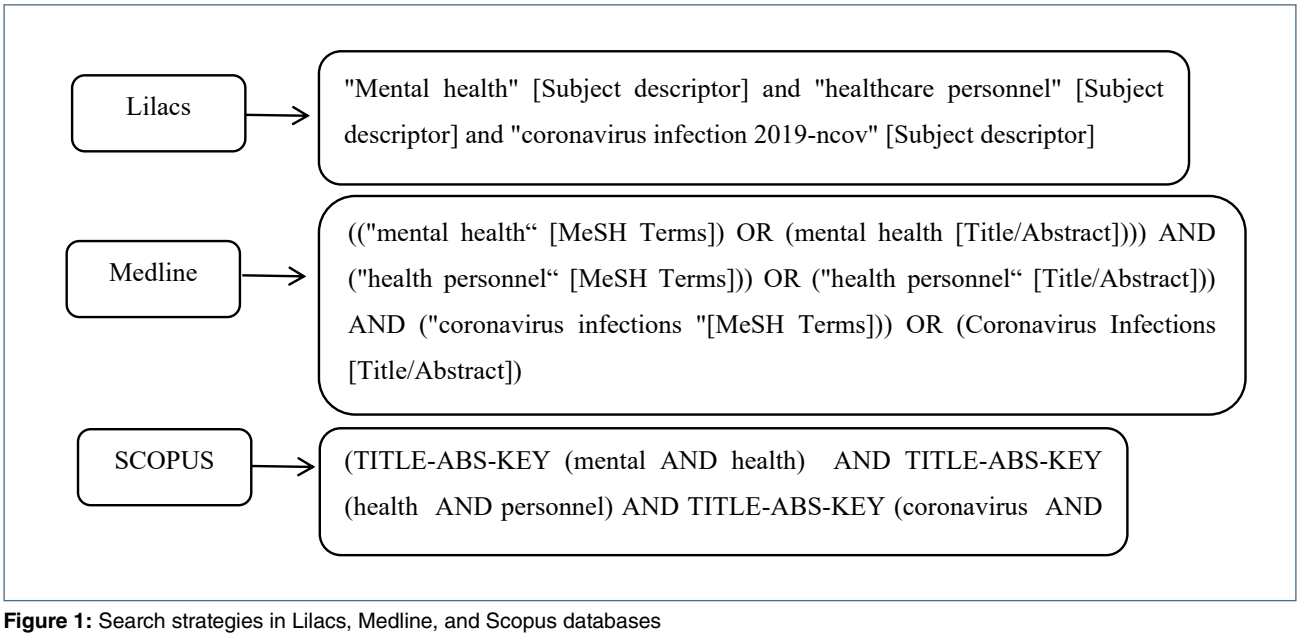

Figure 1: Search strategies in Lilacs, Medline, and Scopus databases

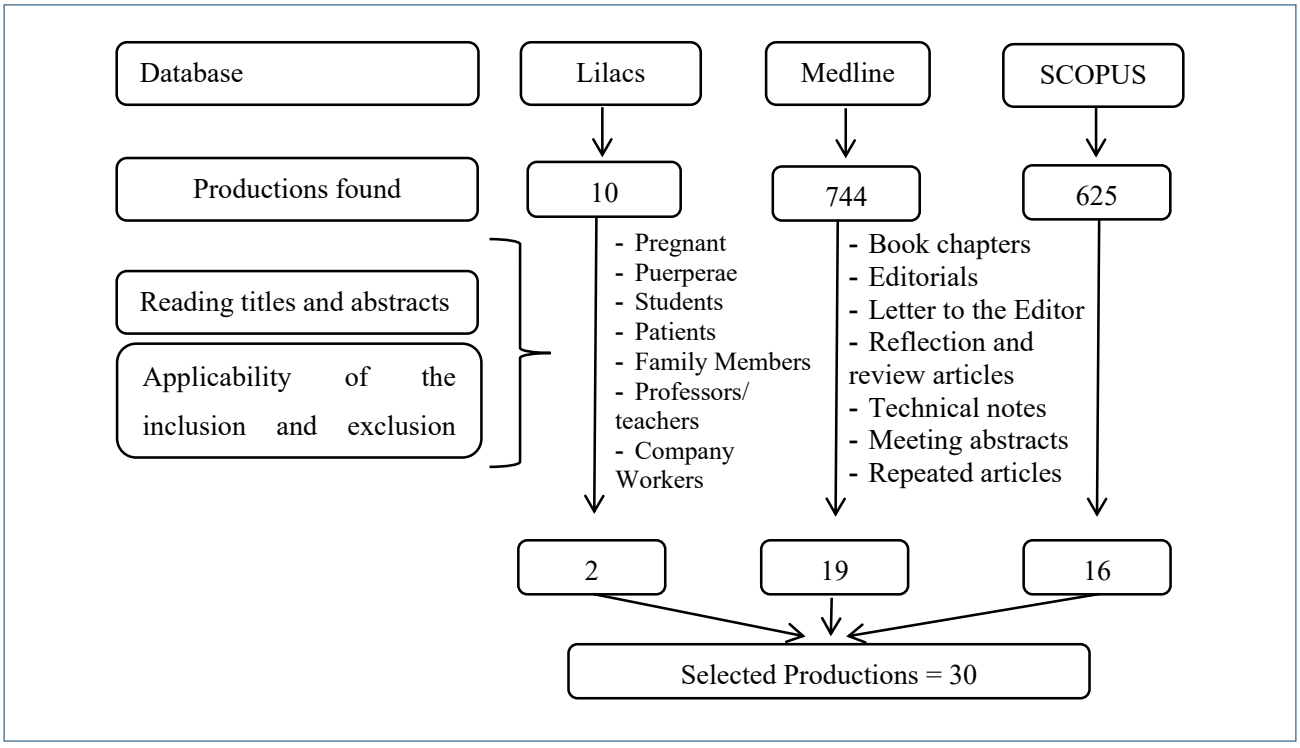

Figure 2: Flow of the corpus selection of the selected productions.

published in Portuguese, English, or Spanish, available in full online and that contemplated the review question. The exclusion criteria were articles on other topics, letters to the editor, editorials, and reflection articles. After reading the title and abstract, and applying the listed criteria, 30 productions were selected to compose the corpus of the study.

Initially, a pre-selection of the scientific productions was made by reading the titles and abstracts. Later, for the categorization of the selected studies, a synoptic table was elaborated, composed of database (article code), country, month and year of publication, journal, objectives, outcome, study design, population, workplace, research instruments, instrument reliability, and main results.

The corpus analysis and synthesis were performed descriptively, including the use of absolute (n) and relative (%) frequencies. It should be noted that, since this is a documental study, approval by a Research Ethics Committee was not necessary. However, it should be noted that the information extracted from the productions that make up the corpus of this study were kept without changes from the original production.

RESULTS AND DISCUSSION

To better analyze the results, three categories were listed: characterization of the productions about mental health during Covid-19; research tools to assess mental health; and mental health of health care workers in the face of Covid-19.

Characterization of mental health productions during Covid-19

Of the selected productions (n=30; 100%), the year 2020 was the highlight of publications on the theme[8,9,11-38] (n=30; 100%). The months with the most submissions were June[9,17,19,20,28,36,38] and March[8,13-14,29,33-35,37] (n=7; 23.3%, respectively); already, for the acceptance/approval of articles, the month of September stood out[12,19-20,28,31] (n=5; 16.7%). Productions with the same submission and acceptance period were identified[8,13-14,23,35,36] (n=6; 20%). Given this finding, it is worth reflecting that many journals had special calls, which demonstrates the rapidity with which studies were developed and a need to publish Covid-19 subjects.

International journals were the most used means of dissemination/publication of the studies, with a predominance of the International Journal of Environmental Research and Public Health[22,24-27,31,32] (n=7; 23.3%) followed by Plos One[14-16] (n=3; 10%). Brazilian journals include Revista Brasileira de Enfermagem11 and São Paulo Medical Journal[33] (n=1; 3.3%, respectively).

China[8,13-15,18,20,29,31,33,34,37] (n=1; 36.7%) stands out as the country that published and conducted the most research on the mental health of health care workers during the pandemic, followed by the United States[16,21,23,28] and Italy[19,24,27,32] (n=4; 13.3%, respectively). This panorama is in line with the reality experienced by the world in the face of Covid-19, with the appearance of the first cases of the disease in Wuhan, China, expanding to other continents, such as Europe and America.

As for the place where the study was carried out, hospital institutions stood out (n=20; 66.7%). Most of the health professionals were nurses, pharmacists, nutritionists, physical therapists, occupational therapists, among others[8,11,14,16,19-21,24,26,28,30,32-34,36-38] (n=17; 56.7%), were the most surveyed, followed by physicians[17,22-23,27,29,31,35] (n=7; 23.3%).

In terms of design, cross-sectional studies stood out[8-9,11-38] (n=30, 100%). As for the area of knowledge, medicine stood out[9,12,15-17,20,22,23,25-30,32,33,35,36] (n=18; 60%) followed by psychology[19,24,31,37] (n = 4; 13.3%).

Research instruments to assess mental health

We identified 40 types of research instruments used in the selected productions to collect data on the mental health of health professionals (Table 1). Of these, it is possible to list a predominance of Generalized Anxiety Disorder [8,13,21,23-25,30-32], Patient Health Questionnaire-9[8,13,24,25,29-32], Insomnia Severity Index[8,13,20,29,31,35] and Symptom checklist 90[9,14,15,35-37]. Given these, it can be observed that the main outcomes of the scientific productions were anxiety symptoms, depressive states, insomnia, and clinical psychiatric symptoms for mental illness in healthy people.

Table 1: Research instruments identified in the studies selected in the narrative review. Brazil, 2020 (n=30)

Research Instrument	Frequency		Cronbach's Alpha
	N	%	
Perceived Stress scale	1	3.3	-
Brief Job Stress Questionnaire (BJSQ)	1	3.3	-
Impact of Event Scale-revised (IES)	4	13.3	-
Maslach Burnout Inventory (MBI)	2	6.7	-
Mini-Z Burnout Assessment	1	3.3	-
Patient Health Questionnaire-9 (PHQ-9)	**8**	**26.7**	0.89[30]; 0.91 e 0.89[31*]
Patient Health Questionnaire-4 (PHQ-4)	1	3.3	-
Patient Health Questionnaire-2 (PHQ-2)	3	10	-
Generalized Anxiety Disorder (GAD-7)	**9**	**30**	0.95[30]; 0.93 e 0.93[31*]
Generalized Anxiety Disorder (GAD-2)	1	3.3	-
Goldberg Anxiety and Depression Scale (GADS)	1	3.3	0.725 e 0.627[27**]
Beck Anxiety Inventory (BAI)	1	3.3	-
Symptom checklist 90 (SCL-90)	**6**	**20**	0.983[14]; 0.983[36]
Epidemiologic Studies Depression Scale (CES-D)	1	3.3	-
Insomnia Severity Index (ISI)	**6**	**20**	0.90[20]; 0.94 e 0.92[31*]
Post-traumatic stress disorder (PTSD)	2	6.7	-
General Health Questionnaire (GHQ-12)	1	3.3	0.86[19]
Adulthood Separation Anxiety (ASA)	1	3.3	0.84[19]
Strengths and Difficulties Questionnaire (SDQ)	1	3.3	0.89[19]
Hospital Anxiety and Depression Scale (HADS)	4	13.3	0.81 e 0.72[20**] 0.728 e 0.702[34**]
Occupational Fatigue Exhaustion Recovery (OFER-15)	1	3.3	-
Depression Anxiety Stress Scale (DASS)	4	13.3	0.89; 0.85 e 0.92[26**]
Sleep Condition Indicator (SCI)	1	3.3	0.86[27]
Pittsburg Sleep Quality Index (PSQI)	1	3.3	-
Effort Reward Imbalance (ERI)	1	3.3	0.769 e 0.731[27**]
Recovery Experiences Questionnaire	1	3.3	-
Difficulties in Emotion Regulation Scale (DERS-18)	1	3.3	0.91[19]
Perceived Social Support Scale (PSSS)	1	3.3	-
Social Support Rating Scale (SSRS)	2	6.7	0.949[14,37]
Multidimensional Scale of Perceived Social Support (MSPSS)	1	3.3	-
Colquitt Scale (CS)	1	3.3	0.861 e 0.696[27**]
Connor-Davidson Resilience scale (CD-RISC- 25)	3	10	0.955[14]; 0.931[34]; 0.954[37]
Connor-Davidson Resilience scale (CD-RISC-10)	1	3.3	0.96 e 0.96[31]
Brief Resilience Coping scale	1	3.3	0.75[19]
Coping Self-Efficacy Scale (CSES)	1	3.3	0.95[19]
Simplified Coping Style Questionnaire (SCSQ)	1	3.3	-
Quality of life (QoL-1)	1	3.3	-
Professional Quality of Life-5 (ProQOL-5)	1	3.3	-
World Health Organization Quality of Life scale (WHOQOL-BREF-TR)	1	3.3	-
Religious Orientation Scale	1	3.3	-

* alpha value by surveyed groups (physicians and general population); ** alpha value by subscales (HADS: anxiety and depression; DASS: depression, anxiety, and stress; ERI: effort and reward; CS: procedural justice and informational justice; GADS: anxiety and depression)

Furthermore, it is noteworthy that some studies have investigated positive mental health outcomes during Covid-19. These are identified through the use of survey instruments such as the Connor-Davidson Resilience scale[14,31,34,37], Simplified Coping Style Questionnaire[34], Coping Self-Efficacy Scale[19,] and Brief Resilience Coping scale[19], that make it possible to evaluate the personal capacity to adapt and effectively face the stressors in the face of adversity and challenges in life. There is also the Quality-of-life coping21 and the World Health Organization Quality of Life scale[33], which measure the material and physical well-being related to other people, social activities, development, and personal fulfillment. Questions about social and psychological support and religious orientation were also contemplated, using instruments such as the Social Support Rating Scale[14,37] and Religious Orientation Scale[33].

As for the reliability of the instruments, studied through the internal consistency by Cronbach's alpha coefficient, only part of the selected productions[14,19,21,26,27,31,37] (n=7; 22.6%) brought this information. It is possible to observe that the values evidenced are indicative of adequate internal consistency since it is considered that the ideal interval of values is >0.70[39]. Only one production[27] presented a value below the indicative in the subscales of the instruments used.

The mental health of health care workers in coping with Covid-19

Studies[16,21] have shown that insufficient personal protective equipment and the failure to use it correctly increased mental health harms during the pandemic by Covid-19. Among the various health problems, depressive and anxiety symptoms[8,9,11,18,20-21,23-30,32-36] were the most present in the productions. Sleep disorders such as insomnia[8,20,27-29,31,35] and physical symptoms such as fatigue[22,38] were also evidenced as factors present in health professionals working in front of Covid-19.

It is noteworthy that being on the front line, providing direct care to patients affected by Covid-19, pointed to a significant association with a higher risk of developing symptoms of depression (p=0.01), anxiety (p<0.001), insomnia (p<0.001) and suffering (p<0.001)[8]. Also, according to studies[8,11,20,30], nursing was the professional category that presented the highest chances of developing diseases such as anxiety, depression, and insomnia. These factors may reflect the attributions that nursing performs in health services, even in the face of high workloads, exhausting routines, long working hours, lack of salary recognition, and, sometimes, lack of institutional support.

It is also worth reflecting on the sleep deprivation and lack of time to rest, factors that can contribute to the onset of mental health problems. A study with nursing professionals showed that overload, work pressures, and technical responsibility can contribute to emotional imbalance[11]. In addition, other psychological disorders have been identified in pharmacists, with 3 to 35% of participants in one study reporting symptoms of high burnout and post-traumatic stress disorder[12].

Also, factors such as working hours with direct or close contact with patients diagnosed with Covid-19 and perceiving the medium or high risk of contracting the disease at work were considered to be conditions associated with burnout (p<0.05)[24]. A study showed that burnout (p=0.001), secondary traumatic stress (p<0.001), frontline work (p=0.008), and intensive care unit work (p=0.001) have significant contributions to the development of generalized anxiety disorder symptoms[32]. The damage that the effects of the pandemic by Covid-19 have been exerting on the health of workers is notorious, affecting their quality of life, especially those who work in healthcare and are in close contact with patients diagnosed by the current disease.

A study developed in India corroborates, with its evidence, that the low quality of life reported among health professionals is associated (p < 0.001) with illnesses affected by the demands arising from the pandemic, such as anxiety and depression[21]. In the face of so many attacks, providing knowledge about risk and protection against the pandemic becomes essential for physical and mental health.

In this review study, it was identified that providing access to mental health support services through telephone support, webinars, psychological and psychiatric help13,16 help to significantly reduce (p<0.001[13] and p<0.05[16]) the effects caused by the pandemic. Also, we highlight the use of meditation, yoga, reading, and listening to music as relaxation strategies that helped in the performance of daily tasks and the reduction of anxiety symptoms[11,13,21]. The presence of religion (p=0.032) and social support offered by friends (p=0.029) are factors considered positive for overcoming adversity and coping with stress due to frequent exposure to Covid-19[26].

A study showed that the social support offered to health professionals showed a positive correlation with resilience (p<0.001)[14], and that the resilience variable correlates positively with coping (p<0.05) and negatively with depression and anxiety (p<0.05)[34]. Allied to this, a study developed in Italy[19] identified that health care workers who had contact with Covid-19 infected patients had higher levels of emotional symptoms (M=2.73; DP=1.1) and separation distress (M=3.02; SD=0.9) when compared to pre-pandemic conditions (M=1.71; DP=0.7 and M=2.10; SD=0.6, respectively). However, it showed that before the pandemic, health professionals had higher levels of resilience (M=3.63; DP=0.6) and self-efficacy (M=6.43; DP=1.8), when compared to the current context (M=3.40; DP=0.7 and M=5.41; DP=2.2, respectively)[19]. These data differ from a study developed in China[31], which showed that the resilience of frontline health professionals at Covid-19 was significantly higher (p<0.05) when compared to the general population.

Study[32] stresses that developing interventions is essential as a strategy to increase and promote resilience in the performance of professionals and strengthen health systems. Based on this, seeking to know the positive factors that permeate the work context, such as resilience, the support network, and strategies, enables new knowledge, to promote mental health at work. Furthermore, one can reflect on the importance of investigating mental health during the context of the pandemic by the new coronavirus experienced by the world, especially by health professionals, who expose themselves daily to take care of their neighbor.

Limitations of the study

As a limitation, the cultural differences between the studies did not make it possible to generalize the impact of Covid-19 on the mental health of health care workers. In addition, few studies presented Cronbach's alpha values, making it difficult to know the internal consistency of the instruments used.

Contributions to the field of Nursing

This study brings contributions to the area of nursing in the field of mental health, to help services, managers, and health professionals to formulate intervention programs to reduce health problems in the work environment. It is noteworthy that nursing was the professional category with the most mental health problems. Therefore, it is evident the importance of this knowledge and the development of strategies to promote the health of these professionals.

Conclusion

We identified studies mostly published at the international level, especially in China, which conducted several studies on the mental health of health care workers in the face of the Covid-19 pandemic. Medicine and psychology were the fields of knowledge that developed the most studies. Mental health was investigated by various types of survey instruments, which assessed symptoms of anxiety, depressive states, insomnia, and clinical psychiatric symptoms for mental illness in healthy people. Furthermore, positive aspects were also the focus of investigation through questions related to resilience, material and physical well-being, social and psychological support, and religious orientation.

The results of the studies also show that the insufficiency of PPE increases mental health problems, and that anxiety and depression symptoms were the most present in the investigated professionals, as well as insomnia and fatigue. Nursing was the professional category that showed the most mental health problems. Moreover, although the negative aspects were notorious, it became evident that enabling support services and interventions is essential in promoting resilience and contributing positively to mental health in the face of the effects of the pandemic by Covid-19.

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