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CULTURE AND SAFETY OF HEALTHCARE PROFESSIONALS IN EMERGENCY AND URGENT CARE SERVICES IN A PANDEMIC

Cultura e segurança do profissional de saúde nos serviços de urgência e emergência em pandemia

Cultura y seguridad de los profesionales sanitarios en los servicios de urgencia y emergencia durante la pandemia

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ABSTRACT

Objective: to map the scientific evidence on the safety culture of healthcare professionals facing the COVID-19 pandemic in mobile emergency services and emergency care. **Methods:** scoping review developed according to JBI guidelines. Seven databases were searched and the results were submitted to a folder on the Rayyan platform. **Results:** 7.357 publications from which 19 articles and 03 grey literature documents were selected. **Conclusions:** during the critical moments of the pandemic, there was an exponential increase in the number of cases of infection among health care workers, an impact on their mental health and a high physical and social burden. The culture of safety was affected by the lack of infrastructure, lack of protection and neglect by health institutions and governments. The protection of first responders must be a priority in pandemic preparedness.

DESCRIPTORS: COVID-19; Pandemics; Safety; Emergency medical services; Health personnel.

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RESUMO

Objetivo: mapear as evidências científicas sobre a cultura de segurança e segurança do profissional de saúde no enfrentamento da pandemia de COVID-19 nos serviços de urgência e emergência móveis e de pronto atendimento. **Métodos:** Scoping Review, desenvolvida segundo diretrizes de JBI. Realizou-se a busca em sete bases de dados e os achados foram encaminhados para uma pasta de arquivos da plataforma Rayyan. **Resultados:** 7.357 publicações das quais foram selecionados 19 artigos e 03 documentos da literatura cinzenta. **Conclusões:** houve elevação exponencial dos casos de infecção entre os profissionais de saúde nos momentos críticos da pandemia, repercussões na saúde mental dos profissionais e elevadas cargas físicas e sociais. A cultura de segurança foi afetada pela escassez de infraestrutura, desproteção e abandono pelas instituições de saúde e governos. Proteger os profissionais da urgência/emergência deve ser prioridade no enfrentamento de pandemias.

DESCRITORES: COVID-19; Pandemias; Segurança; Serviços médicos de emergência; Pessoal de saúde..

RESUMEN

Objetivos: mapear la evidencia científica sobre la cultura de seguridad de los profesionales de la salud ante la pandemia de COVID-19 en los servicios móviles de emergencia y urgencias y atención de emergencia. **Métodos:** Scoping Review, desarrollado según lineamientos del JBI. Se realizó una búsqueda en siete bases de datos y los hallazgos se enviaron a una carpeta de archivos en la plataforma Rayyan. **Resultados:** 7.357 publicaciones de las cuales se seleccionaron 19 artículos y 03 documentos de literatura gris. **Conclusiones:** hubo un aumento exponencial de casos de infección entre profesionales de la salud en momentos críticos de la pandemia, repercusiones en la salud mental de los profesionales y altas cargas físicas y sociales. La cultura de seguridad se vio afectada por la falta de infraestructura, desprotección y abandono por parte de las instituciones de salud y los gobiernos. Proteger a los profesionales de urgencias/emergencias debe ser una prioridad en la lucha contra las pandemias.

DESCRIPTORES: Lactancia materna; Mujeres; Lactancia; Adopción.

INTRODUCTION

COVID-19 has significantly changed the work dynamics of all sectors of society with the measure of social isolation. Healthcare professionals have been living with a heavy workload, and those in the emergency and urgent care services have remained in constant health care for the population in emergency care units and mobile emergency care services.[1] These services are available 24 hours a day, seven days a week, and professionals work in immediate response to events that devastate society to ensure the survival of critical patients.[2]

Paramedics play a key role in managing public health crises, including outbreaks of infectious and contagious diseases.3 As the first link in the healthcare chain, these professionals were at the forefront of caring for patients infected with the highly infectious SARS-CoV-2.[4]

COVID-19 has brought about significant changes in working practices and has added to the vulnerabilities and challenges that already exist in the emergency services, with devastating consequences for the safety of healthcare workers.[5]

Conceptually, the safety of health professionals is multidimensional and interdependent on the following dimensions: institutional and organizational, for the culture of safety in the workplace, with the provision of adequate infrastructure and protective equipment;2 personal and professional, based on integrity, resilience to adapt to difficult and unpredictable conditions, safe and team actions and practices, professional experience, and knowledge for efficient and effective decision-making.[3]

Safety culture, in turn, is understood as "the organizational culture in which healthcare professionals and managers take responsibility for their own safety and that of their colleagues, patients and families, both individually and collectively"6. In addition, safety is given priority over financial and organizational aspects.7 Thus, culture is attributed to the "systematic and continuous application of initiatives, procedures, behaviors and resources in the assessment and control of risks and adverse events that affect safety, human health, professional integrity, the environment and the image of the institution".[6]

In several countries around the world, the impact of the pandemic on the safety of healthcare workers was much more severe due to a lack of materials and resources, lack of institutional support, poor infrastructure and insufficient human resources.[8]

Frequent and prolonged exposure to potentially contaminated patients, the intensification of the workday and the greater complexity of work tasks, with fewer breaks and rest periods, indirectly increased the likelihood of infection among health care workers in emergency and urgent care services by compromising care with their own protection. Thus, health professionals were exposed to considerable psychological tension and many challenges in dealing with COVID-19, facilitated by inadequate protection at the beginning of the epidemic, justified by the lack of knowledge about the pathogen, which directly affected the performance of professionals.[4,5]

However, on 5 May 2023, more than three years after the beginning of the COVID-19 pandemic, the World Health

Organization declared the end of the public health emergency of international concern regarding this disease.9 After this critical period, today the incidence of COVID-19 has decreased significantly and vaccination rates have progressed, creating a scenario of disease control.[10]

In view of the above, the question arises: what is the state of the art of the safety culture of health professionals in face of the COVID-19 pandemic in mobile urgent and emergency services?

The aim of this study was to map the scientific evidence on the safety and security culture of health professionals facing the COVID-19 pandemic in mobile urgent and emergency services and prompt assistance.

METHODOLOGY

This scoping review was developed according to the guidelines of JBI and PRISMA-ScR,11 with a research protocol cataloged in the Open Science Framework (https://osf.io/2pa86/), available at the link https://osf.io/2pa86/settings/#createVolsAnchor, with sufficient details to allow replication of the study by other researchers, ensuring reliability and methodological rigor.[12]

The research question for this review was formulated according to the Population, Concept and Context (PCC) strategy,[13] with P (population): emergency and urgent care professionals; C (concept): safety and safety culture of professionals facing the COVID-19 pandemic; C (context): the impact of coping with the COVID-19 pandemic on the safety and safety culture of emergency and urgent care professionals..

According to JBI, the following steps were considered in the development of this scoping review: identification of the research question and inclusion and exclusion criteria; identification and selection of relevant studies; quality assessment of the studies; data extraction; compiling, synthesis and presentation of the data; and presentation and interpretation of the results. The Grading System of Recommendations Assessment, Development and Evaluation and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses - PRISMA-ScR guidelines were applied to the body of evidence.[11]

Seven databases were searched: Medical Literature Analysis and Retrieval System Online (MEDLINE), Web of Science, Scopus, Latin American and Caribbean Literature in Health Sciences (LILACS), Cochrane Library, Embase, and the Catalogue of Theses and Dissertations of the Coordination for the Improvement of Higher Education Personnel (CAPES). Studies were included if they were published in full, freely available in English, Spanish and Portuguese, published between 2020 and 2022, and dealt with the topic under review. Publications presented as editorials, reviews, letters, experience reports, theoretical essays, opinion articles, narrative and integrative reviews were excluded.

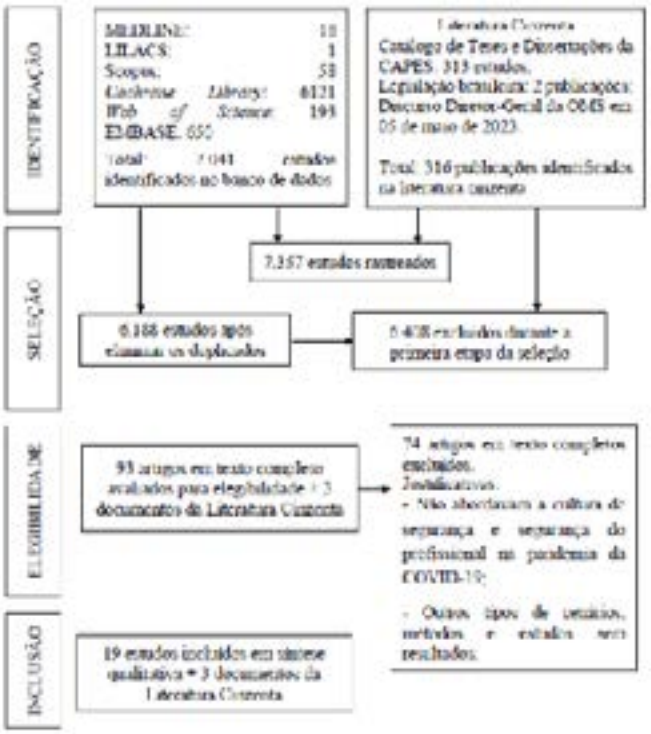
The search strategy, which was also used in the databases consulted, combined the descriptors selected from the Medical Subject Headings (MeSH), Health Sciences Descriptors (DeCS) and Boolean operators in a combined or articulated manner: "COVID-19" OR "2019 Novel Coronavirus Disease" OR "COVID-19 Pandemic" OR "Pandemics" AND "Safety" OR "Working Conditions" OR "Safety management" OR "Medidas de Seguridad" AND "Health Personnel" AND "Emergency Medical Services".

The search, selection and review of the articles were carried out by two researchers individually, with the assistance of a third when necessary. Initially, the seven databases were searched using the Boolean descriptors and the inclusion and exclusion criteria. The results were sent to a folder on the Rayyan platform and then the title and abstract were read in order to select the articles compatible with the topic studied. The previously selected articles were read in full, defining those that met the inclusion criteria and the theme of the research, and extracting the main data for analysis.

The data were summarized by categorizing the selected articles according to the level of evidence, in accordance with the Classification of Evidence-Based Practice. Five levels were used to characterize the strength of evidence: Level 1, strong evidence from at least one systematic review of several randomized, controlled, well-designed studies; Level 2, strong evidence from at least one randomized, controlled study of appropriate design and adequate size; Level 3, evidence from well-designed studies without randomization, single-group pre- and post-cohort, time series or paired case-control; Level 4, evidence from well-designed non-experimental studies conducted in more than one center or research group; Level 5, opinions of recognized authorities based on clinical evidence, descriptive studies or expert committee reports.[14]

After the presentation of the summarized data (Figure 1), the process of writing this article began. Figure 1 outlines the process of the initial search, exclusion and selection of the sample of studies, showing the stages: identification, selection, eligibility and inclusion.

Figure 1 - Flowchart of the search, deletion and selection of retrieved items.



Source: Adapted from PRISMA-ScR,11 2022.

RESULTS

The search in seven databases retrieved a total of 7.357 studies. After reading the title and abstract, 93 articles were selected for full reading. After this stage, 74 articles were excluded, leaving 19 studies that addressed the proposed topic and 03 documents from the grey literature.

Given the evolution of the pandemic after this study, it was necessary to look for evidence of the end of the public health emergency of international concern related to COVID-19.

Chart 1 presents the results of the search in a descriptive way, including the main characteristics of the studies, such as authors, year of publication, country, type of study, number of participants, database, level of evidence, objective(s), conclusion.

Regarding the year of publication, 58% of the studies were published in 2021, 21% in 2020 and 21% in 2022. The predominant study design was cross-sectional with 11 articles, followed by qualitative (3), descriptive (2), systematic review (1), observational (1) and cohort (1). They come from different countries: United States (3), China (2), Spain (2), Turkey (2), Brazil (1), Poland (1), Iran (1), Australia (1), South Korea (1), Netherlands (1), Wales (1), Egypt (1), Japan (1) and Germany (1).

Chart 1 - Description of the included studies: authors, publication year, country, type of study, number of participants, database and level of evidence, objective(s), conclusion. 2022.

Author, year/country/type of study/sample/ database/evidence level	Objective(s)	Conclusion
Ilczak et al., 2021 Poland Cross-sectional study 955 health professionals MEDLINE Evidence level 4	To assess the predictors of stress experienced by paramedics, nurses, and physicians in the face of the COVID-19 pandemic.	The following were considered as predictors of occupational stress: fear of contracting COVID-19; decreased level of safety during emergency medical procedures; marginalization of patients who do not suffer from COVID-19; being a woman and working in the nursing profession. Those that did not affect the level of stress are: adequate training, the provision of protective equipment and opinions on the adequacy of health systems to face the pandemic.
Mohammadi et al., 2021 Iran Descriptive qualitative study 27 employees of a pre-hospital emergency department MEDLINE Evidence level 5	To identify some strategies for coping with the COVID-19-related challenges faced by pre-hospital emergency care providers in southern Iran.	A comprehensive and systematic protocol for the provision of prehospital care must be made available and continuously evaluated against scientific standards. Due to lack of equipment and work overload during the pandemic, professionals faced many psychological challenges that negatively affected the quality of prehospital emergency care.

Ilczak et al., 2021 Poland Cross-sectional study 955 health professionals MEDLINE Evidence level 4	To assess the predictors of stress experienced by paramedics, nurses, and physicians in the face of the COVID-19 pandemic.	The following were considered as predictors of occupational stress: fear of contracting COVID-19; decreased level of safety during emergency medical procedures; marginalization of patients who do not suffer from COVID-19; being a woman and working in the nursing profession. Those that did not affect the level of stress are: adequate training, the provision of protective equipment and opinions on the adequacy of health systems to face the pandemic.
Mohammadi et al., 2021 Iran Descriptive qualitative study 27 employees of a pre-hospital emergency department MEDLINE Evidence level 5	To identify some strategies for coping with the COVID-19-related challenges faced by pre-hospital emergency care providers in southern Iran.	A comprehensive and systematic protocol for the provision of prehospital care must be made available and continuously evaluated against scientific standards. Due to lack of equipment and work overload during the pandemic, professionals faced many psychological challenges that negatively affected the quality of prehospital emergency care.
Li et al., 2021 Australia Cross-sectional study 159 emergency nurses, 110 emergency doctors, 161 paramedics MEDLINE Evidence level 4	To investigate the knowledge, preparedness and experience of Australian emergency nurses, emergency physicians and paramedics in the management of COVID-19.	Extensive training, education, and support helped prepare emergency responders to manage COVID-19 patients. Challenges included inconsistent and rapidly changing communications and PPE availability.
Yeo et al., 2021 South Korea Cross-sectional study 520 health professionals (doctors and nurses) MEDLINE Evidence level 4	To investigate the state of the medical environment and the psychological state of health professionals working at the frontline of the COVID-19 pandemic.	Emergency department (ED) work was overwhelming, with increased levels of depression and anxiety among health care workers; an insufficient number of wards were identified to treat infected patients; staff in Gyeongbuk experienced more delays in treatment and transfer than in Daegu, which were higher for patient groups with fever and respiratory illness. Policy makers should consider the differences and situations faced by health care workers according to the level of emergency departments and regional conditions to overcome the effects of a pandemic.
Spoelder et al., 2021 Holanda Single-center retrospective observational study 18 members of the Helicopter Emergency Medical Service team MEDLINE Evidence level 4	To analyze the psychological affectation of health professionals in the Spanish Emergency Medical Services according to the cumulative incidence of COVID-19 cases in the regions where they worked.	Spanish health professionals had high levels of stress, anxiety, depression, and average levels of self-efficacy. Similar data were observed in different geographical areas. A greater impact was observed among women, younger professionals or those with less experience working in the emergency room, technicians, workers who had to change their working conditions, or those who lived with minors or dependents. Psychological support was essential to alleviate distress by helping them reflect on their psycho-emotional reactions to adverse events.

Canan; Murat; Cetin, 2021 Turkey Descriptive study 168 medical professionals Scopus Evidence level 5	To compare the level of occupational anxiety among emergency medical technicians based on several variables (institution, years of experience, number of daily emergency cases in the institution, etc.).	The significant difference in anxiety levels was related to the work environment and increased workload, co-workers, access to equipment, including personal protective equipment, and environmental factors. Emergency physicians should receive psychological and behavioral support.
Rees et al., 2021 Whales Qualitative study, Data-driven theory 20 paramedics MEDLINE Evidence level 4	To explore paramedics' experiences of providing care during the COVID-19 pandemic and develop theories to inform future policy and practice.	Care was provided in the context of competing and conflicting decisions and resources, and tragic choices were made that challenged the pricelessness of life. Wellness support, clinical decision-making, appropriate PPE, and health care resources are all influenced by decisions made before and during the pandemic and will continue as we recover and plan for future pandemics.
Firew et al., 2020 United States Cross-sectional study 3083 health professionals (doctors, nurses, emergency medical technicians, non-clinical staff) MEDLINE Evidence level 4	To assess factors contributing to healthcare worker infection and psychological distress during the COVID-19 pandemic in the United States.	To assess factors contributing to healthcare worker infection and psychological distress during the COVID-19 pandemic in the United States.
Rodriguez et al., 2021 United states Prospective cohort study 1.606 participants (638 doctors, 156 advanced practice professionals, 410 nurses and 402 non-clinical staff) MEDLINE Evidence level 3	To assess anxiety and burnout symptoms and risk for post-traumatic stress disorder; to describe the specific concerns of healthcare workers as a result of their work during the pandemic; and to determine whether the stress mitigation measure reported for healthcare workers prior to serologic testing for SARS-CoV-2 would reduce self-reported anxiety.	Symptoms of anxiety, emotional exhaustion and burnout were common among emergency responders, with up to one-fifth at risk of post-traumatic stress disorder (PTSD). Organizational efforts to prevent pandemic-related stress and chronic stress should be focused, with supportive policies and increased availability of SARS-CoV-2 testing.
Said; El-Shafei, 2021 Egypt Comparative cross-sectional study 420 nurses MEDLINE Evidence level 4	To assess occupational stress, job satisfaction, and intention to leave among nurses caring for suspected COVID-19 patients in an emergency department in Sharkia province, Egypt.	Almost all work-related physical, psychological, and social stressors increased among nurses in COVID-19 triage or isolation hospitals compared to those working in general hospitals, suggesting that the COVID-19 pandemic added an additional burden to an already stressful job. Dealing with death and dying, workload, personal demands and fears, the use of strict biosecurity measures, and stigma accounted for 80% of the occupational stress problem, while exposure to the risk of infection was the highest priority stressor for general hospital nurses. This highly stressful environment has led to job dissatisfaction with a tendency to leave their jobs in the future.

Kayama et al., 2022 Japan Qualitative study 102 participants in the first research and 154 in the second research MEDLINE Evidence level 4	To describe and compare the experiences of healthcare workers in Japan at an emergency hospital in Tokyo during the first wave of the COVID-19 pandemic, from March to May 2020, and during the lull from June to July 2020.	Professionals are concerned about the uncertainty of the situation, including fear of infection due to lack of PPE, the impact on family members, and drastic changes in their work environment. Mental health education, job adjustments, and workplace accommodations are needed to maintain the mental health of health workers during disasters.
Li et al., 2020 China Cross-sectional study 225 doctors MEDLINE Evidence level 4	To examine the mental health status of emergency healthcare workers during the peak of the pandemic, the prevalence of PTSD symptoms upon return home, and predictors of PTSD symptoms in the same population.	Professionals report a high prevalence of depression, anxiety and stress, and PTSD symptoms. Comprehensive screening and intervention programs can help healthcare providers address mental health challenges and build resilience during a pandemic.
Song et al., 2020 China Cross-sectional study 14.825 doctors and nurses Scopus Evidence level 4	To assess the mental health of emergency department personnel during the epidemic in China.	Working in Hubei province was associated with a higher risk of depressive symptoms, while those who worked in Hubei province but lived in another province had a lower risk of depressive symptoms and PTSD. Being a nurse was associated with a higher risk of PTSD. Psychological skills training should be strengthened to better regulate the psychological state of medical staff and alleviate psychological problems of patients.
Soto-Cámara et al., 2021 Studies from Italy, Germany, Spain, Turkey, Belgium, India, Iran, Pakistan, Poland, Russia, Canada, Ireland, Kenya and the United States Systematic review 16 studies with a sample characterized by health professionals Scopus Evidence level 1	To identify the best available scientific evidence on the impact of the COVID-19 pandemic on the mental health of out-of-hospital health care workers in terms of stress, anxiety, depression, and self-efficacy.	The mental health of out-of-hospital professionals was affected. Being a woman or having direct contact with patients with suspected signs of COVID-19 or confirmed cases were the factors associated with a higher risk of developing high levels of stress and anxiety; in the case of depressive symptoms, having a clinical history of diseases that could weaken their defenses against infection. Interrupting uncomfortable emotions and thoughts was the most common coping strategy used by professionals.
Dal Pai et al., 2021 Brazil Exploratory-descriptive qualitative study 55 workers from 16 SAMU teams Web of Science Evidence level 4	To know the impact of the COVID-19 pandemic on the work and health of professionals of the Mobile Emergency Service (SAMU) in a capital city of the Southern Region of Brazil.	SAMU professionals noticed an increase in requests for respiratory diseases, felt losses in relationships established with other services in the network due to the new protocols at the entrance doors of the different services that interface with SAMU. They perceived a negative impact on the response time of the service, to the detriment of the increase in infection control measures on ambulances and the process of dressing and undressing. They reported a perception of high exposure to the risk of contamination, concerns about the availability and quality of PPE; interest in technical-scientific improvements to work in the pandemic; described the fear of contracting COVID-19, as well as the impact on their own family. These experiences have an impact on the mental health of the professionals, who also experienced the social restrictions imposed by the pandemic, limiting opportunities to relieve emotional, cognitive and physical tensions at work.

Blanchard et al., 2022 United States Cross-sectional study 701 emergency health professionals Embase Evidence level 4	To assess the relationship between the perceived work environment and the mental well-being of a sample of emergency physicians, emergency nurses, and emergency medical service providers during the pandemic.	The COVID-19 pandemic affected the mental health and well-being of emergency health workers, with a strong association between perceived adverse work environment and poor mental health. This was particularly true when the work environment was perceived to be unfavorable by the organization, highlighting potential opportunities for intervention. A culture shift that prioritizes the well-being of healthcare workers is critical as we look to the future.
Şayık; Açıkgöz; Kaya, 2022 Turkey Cross-sectional descriptive study 247 medical professionals Embase Evidence level 4	Determine the anxiety levels and sleep quality of EMS personnel and the factors affecting them during the COVID-19 pandemic.	Health care workers who worked 24-hour shifts, smoked and/or drank alcohol, had a psychological disorder and did not have adequate protective equipment, had high anxiety scores and poor sleep quality. They had problems with child care, believed that the working conditions negatively affected their children, and were afraid of transmitting COVID-19 to themselves and their families.

Source: Database**.**

DISCUSSION

During the pandemic, the emergency and urgent care service was the main gateway to the health care system for patients in critical condition with suspected or confirmed SARS-CoV-2 infection. It has therefore been characterized as the health network service with the highest risk for practitioners. These professionals were dealing with symptomatic patients who may have transmitted the virus, but without diagnostic confirmation of the disease.[1,15]

In the critical moments of the COVID-19 pandemic, the Urgent and Emergency Services experienced an exponential increase in cases of infection among health care workers, occupational risks caused by the virus, in addition to significant changes in the work process.[16-17] Health care professions are heterogeneous, with some professional categories more vulnerable, exposed, without support and protection.[17-18] Within this spectrum, three studies show the prevalence of infection among care workers,[1,17,18] which can be explained by greater exposure to infected patients, work overload in precarious conditions, and professional devaluation.[1]

The environment of emergency services has a direct impact on the safety of health workers. The infrastructure of health care facilities was not adequate to isolate patients with a confirmed or suspected diagnosis of SARS-CoV-2 infection, further exposing a pre-existing deficit in the work structure.[16,19]

It is clear that professionals working in an environment of scarce resources and lack of organizational support are more vulnerable to occupational risks and psychological damage, which is exacerbated by an inadequate safety culture. By ignoring the factor of the organization of work and services, professionals can be blamed for problems that are structural and the responsibility of the institutions.[19] In the context of the COVID-19 pandemic, professionals' self-perception of safety was improved by organizational policies that included strategies to reduce the risk of infection among workers, regular training and adequate access to PPE.[20]

The provision and appropriate use of PPE forms part of the safety culture, as inadequate access to PPE is associated with high levels of anxiety, fear and increased occupational risk.[2,5,17,20,21] Lack of access to PPE, particularly during the performance of invasive procedures such as orotracheal intubation and bronchial hygiene, may increase anxiety symptoms in emergency and rescue workers due to the increased risk of SARS-CoV-2 infection via aerosols.[2,20] In addition, there is an established relationship between access to and appropriate use of PPE and the risk of developing symptoms characteristic of COVID-19.[17] However, it is noteworthy that while use of PPE results in a favorable mental state for professional performance, prolonged use is associated with discomfort and fatigue.[22]

Given the adverse circumstances of pre-hospital emergency care, it was evident that professionals were at greater risk of contamination by SARS-CoV-2, with PPE being an important protective factor in addition to promoting safe and effective professional performance.[23,24] However, the use of PPE in the out-of-hospital environment hinders movement, vision and agility, which are essential factors in emergency care.[5] Unlike healthcare facilities, pre-hospital emergency care professionals perform their duties in a confined, hermetic environment with limited movement and greater proximity to the patient, which poses an even greater challenge to personal safety.[22,25]

Faced with a previously unknown etiological agent and caring for patients with a disease without a defined treatment, healthcare professionals experienced a scenario of extreme uncertainty. The exponential development of the disease was not accompanied by the development of scientific knowledge on prevention and treatment. In this context, the lack of specific organizational training was a reality in the health services, which required professionals to be resilient in developing their care skills in the face of imposed needs.[5]

In circumstances of uncertainty, the credibility of the information accessed and the reliability of the sources of information were essential.[16] A large flow of information about the disease was produced and shared on a daily basis, creating a divergence between governments, social media and the scientific literature, and affecting the confidence and safety of frontline health professionals.[16,24]

The emotional and psychological well-being of professionals was affected by the COVID-19 pandemic, as reported in 11 of the [19] studies included in this review. Changes to usual work routines in a critical scenario increased professionals' vulnerability to anxiety, stress and depression, described in 11 studies,[1,5,23,15,16,17,25,21,18,26,27] post-traumatic stress disorder,[15,26,28] insomnia and burnout. [5,17,19] In addition, the prevalence of these psychoemotional symptoms was higher in healthcare workers than in the general population.[26] Moreover, professional performance during the pandemic was associated with higher incidence of alcohol abuse and self-medication.[5,29] Consistently, 4 studies pointed out that women were expressed as vulnerable to psychological problems as a result of working in the COVID-19 pandemic, due to the predominance of women in the health sector, gender discrimination, empathy burnout syndrome and the imposition of reconciling family and professional life.[1,25,29,27]

From an organizational point of view, these psychopathologies are more common in health professionals working in public institutions than in private ones. The greater number of patients and the lower availability of human resources explain this occurrence.[2] Besides, there is a relationship between greater mental impairment in professionals with less professional experience,[2,25] since longer clinical practice results in a better ability to self-manage negative emotions.[28]

The main physical, psychological and social predictors of mental changes in frontline professionals had a direct impact on their safety and are related to exposure to the risk of infection,[18] work environment,[2,18] coping with the process of death and dying,[18] imposition of social isolation,[17] lack of physical and human resources,[5,20] fear of infecting family and friends,[15,16,24] and uncertainty about the duration of the pandemic.[21] In this scenario of public calamity, frontline professionals experienced a dissonance between personal and professional life. Family life was curtailed, while the workload increased unevenly, reducing the time available for socialising.[21,24,29]

A limitation of this scoping review is the focus on the synthesis of evidence as it was carried out during the COVID-19 pandemic.

Contributions to practice: This study presents the synthesis of evidence that contributes to the safety of healthcare workers during pandemics and to mitigating the factors that compromise the safety culture in the emergency services.

CONCLUSION

The safety of health workers and the safety culture of the emergency services have been shaken by the COVID-19 pandemic. The main impacts are related to the mental health of health professionals, high physical and social stress, scarcity of infrastructure, lack of protection and abandonment by health institutions and governments. The protection of healthcare workers must be a priority in the fight against pandemics.

The COVID-19 Pandemic ratifies the commitment of the services to consolidate the safety measures of health professionals on the front line in pandemics, considering the indications of the studies referred to in this review, on the priority of the safety culture of the institutions, the organizational. The intervention on the vulnerabilities exposed by a highly transmissible disease becomes precise, given the consequences of a critical professional performance. It is up to the institutions to promote an adequate safety culture, through human resources management, professional support and control of occupational exhaustion, especially in the field of mental health.

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