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ICU Nursing Team Mental Health in The Face of the COVID-19 Pandemic: An Integrative Review

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Theme: Health, well-being, and quality of life promotion

Contribution to the subject: This integrative literature review allowed identifying the mental health conditions among the Nursing professionals working in Intensive Care Units during the COVID-19 pandemic. This study is essential because it maps the impacts triggered by the pandemic on these professionals' health and life aspects; thus, its results can be used as a basis to develop strategies and actions for the care and health assistance of ICU Nursing professionals.

Abstract

Introduction: During the COVID-19 pandemic, health professionals were at an increased risk of developing psychological conditions, especially in Intensive Care Units. A gap is verified in the knowledge about ICU Nursing teams' mental health in the care provided to patients affected by COVID-19. **Objective:** To review the literature to identify the mental health conditions of ICU Nursing professionals during the COVID-19 pandemic. **Materials and method:** This is an integrative literature review with data collection from January to April 2022 in the Embase, Cumulative Index to Nursing and Allied Health Literature, PubMed, Scopus Content Overview and Web of Science databases. The following descriptors were listed: "Intensive Care Units," "COVID-19," "Mental Health," and "Nurse." The materials included were studies produced since 2020, available in full in the Spanish, English and Portuguese languages, and which answered the research question. Search and selection of the articles were the duty of two duly trained researchers, who worked independently through peer discussion. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses recommendations were followed. **Results:** From a sample of 16 articles, it was observed that the critical care of COVID-19 patients affected Nursing professionals' mental health with an emphasis on depression, anxiety, stress and fear. This was associated with a lack of evidence-based training, scarcity of human and physical resources, work overload and insufficient work experience. **Conclusions:** ICU Nursing professionals are mentally shaken; therefore, it is imperative to implement policies, strategies and methods to improve the psychological conditions of these professionals, to ensure the quality of services.

Keywords (Fonte: DeCS)

Nursing; coronavirus infections; intensive care units; mental health; health promotion.

4 Salud mental de los profesionales de enfermería intensivistas ante la pandemia de la COVID-19: revisión integradora

Resumen

Introducción: durante la pandemia de la covid-19, los profesionales de la salud han presentado riesgo aumentado para el desarrollo de afecciones psíquicas, especialmente en la unidad de terapia intensiva. Se encuentra vacío de conocimiento acerca de la salud mental de los profesionales de enfermería intensivistas en la atención a los pacientes acometidos por la covid-19. **Objetivo:** identificar, en la literatura científica, las condiciones de la salud mental del profesional de enfermería intensivista durante la pandemia de la covid-19. **Materiales y método:** se trata de una revisión integradora de la literatura; la recolección de datos ocurrió de enero a abril de 2022 en las fuentes de datos Embase, Cumulative Index to Nursing and Allied Health Literature, PubMed, Scopus Content Overview y Web of Science. Se han relacionado los siguientes descriptores: “Intensive Care Units”, “Covid 19”, “Mental Health”, “Nurse”. Se han incluido estudios producidos desde el 2020, disponibles de forma integral, en español, inglés y portugués, y que atendieran a la pregunta de investigación. La búsqueda y selección de los artículos se ejecutaron por dos investigadores capacitados, de modo independiente, mediante discusión por pares. Se siguieron las recomendaciones del Preferred Reporting Items for Systematic Reviews and Meta-Analyses. **Resultados:** desde una muestra de 16 artículos, se ha observado que la atención crítica a pacientes con covid-19 ha afectado la salud mental de los profesionales de enfermería con énfasis para depresión, ansiedad, estrés y miedo. Lo anterior se asocia a la falta de tratamiento basado en evidencia, la carencia de recursos humanos y físico, la sobrecarga de trabajo y las experiencias de trabajo insuficientes. **Conclusiones:** los profesionales de enfermería intensivistas están mentalmente debilitados; por lo tanto, urge la implantación de políticas, estrategias y métodos para mejorar las condiciones psicológicas de estos profesionales para, así, asegurar la calidad en los servicios.

Palabras clave (Fuente: DeCS)

Enfermería; infecciones por coronavirus; unidades de cuidados intensivo; salud mental; promoción de la salud.

Resumo

Introdução: durante a pandemia da covid-19, os profissionais de saúde apresentaram risco aumentado para o desenvolvimento de afecções psíquicas, especialmente na unidade de terapia intensiva. Verifica-se lacuna de conhecimento sobre a saúde mental da equipe de enfermagem intensivista no atendimento aos pacientes acometidos pela covid-19. **Objetivo:** identificar, na literatura científica, as condições da saúde mental do profissional de enfermagem intensivista durante a pandemia da covid-19. **Materiais e método:** esta é uma revisão integrativa da literatura; a coleta de dados ocorreu de janeiro a abril de 2022 nas fontes de dados Embase, Cumulative Index to Nursing and Allied Health Literature, PubMed, Scopus Content Overview e Web of Science. Elencaram-se os seguintes descritores: “Intensive Care Units”, “Covid 19”, “Mental Health”, “Nurse”. Incluíram-se estudos produzidos desde 2020, disponíveis na íntegra, em espanhol, inglês e português, e que respondessem à questão de pesquisa. A busca e seleção dos artigos foram executadas por dois pesquisadores treinados, de modo independente, mediante discussão por pares. As recomendações do Preferred Reporting Items for Systematic Reviews and Meta-Analyses foram seguidas. **Resultados:** a partir de uma amostra de 16 artigos, observou-se que o cuidado crítico de pacientes com covid-19 afetou a saúde mental dos profissionais de enfermagem com destaque para depressão, ansiedade, estresse e medo. Isso se associou à falta de tratamento baseado em evidências, à carência de recursos humanos e físicos, à sobrecarga de trabalho e às experiências de trabalho insuficientes. **Conclusões:** os profissionais de enfermagem intensivistas estão mentalmente abalados; portanto, é imperativa a implantação de políticas, estratégias e métodos para melhorar as condições psicológicas desses profissionais, para, assim, garantir a qualidade nos serviços.

Palavras-chave (Fonte DeCS)

Enfermagem; infecções por coronavírus; unidades de terapia intensiva; saúde mental; promoção da saúde.

Introduction

COVID-19 is an infectious disease caused by the SARS-CoV-2, with a predominance of respiratory symptoms. The World Health Organization (WHO) declared it a pandemic in March 2020. Until December 2022, more than 651 million cases and 6 million deaths were recorded worldwide (1).

It was a fact the general population presented negative reactions to the pandemic, which represented a complex and multifaceted issue (2). People have different ways of dealing with stressful situations depending on their training, life story, individual characteristics, and the community where they live. During the pandemic, in addition to the fear of contracting the disease, there was a constant impression of insecurity towards the daily activities of living in society, with changes in interpersonal relationships (3).

In addition, some groups responded more intensely to the COVID-19 pandemic stress, namely: younger individuals, females or those with chronic diseases; patients affected by COVID-19; health professionals who worked in assistance to COVID-19, and individuals with mental disorders, including problems related to substance use, such as alcohol and other drugs (2, 4). A Brazilian study indicates an increase in psychological factors such as sadness or depression (40.4%), anxiety or nervousness (52.6%) and sleep problems (43.5%), amid this social niche (5).

Several studies show that health workers working on the front line of care for people infected with the COVID-19 virus are at an increased risk of developing psychological disorders, especially Nursing professionals (2, 6, 7). Intensive Care Units (ICUs [8]) stand out among the hospital environments for health care during these pandemic times.

In this environment, Nursing care during the critical pandemic period was based on excessive working hours, inadequate staffing, a high number of admitted patients, and lack of professional training; in addition to the need to deal with the grief, pain, and suffering of others (9, 10). Nursing professionals are among the most devalued groups in the health area, even when representing the pillar of health services around the world. Within an ICU, Nursing professionals are the main caregivers and those with the longest contact times with the patients (11).

Thus, the mental illness process in Nursing professionals responsible for the immediate and continuous care of critically-ill patients affected by COVID-19 and with higher rates of infection and death due to the disease stands out (12-14). Various studies evidence the need to prioritize protection measures for the sake of preserving the optimization of their capacities (6, 7). The mental health care of an ICU Nursing team cannot be interrupted or minimized in the post-pandemic period, as certain individuals may be slow to externalize the psychological distress signs and symptoms (15).

Given the above, a gap is verified in the knowledge about ICU Nursing professionals' mental health in the care provided to patients affected by COVID-19. To establish targeted and effective health promotion and prevention actions, this study aims at identifying, in the scientific literature, the mental health conditions of ICU Nursing professionals during the COVID-19 pandemic.

Materials and Methods

This is an integrative literature review. This approach provides a synthesis of knowledge and grouping of relevant research results in the practice, generating a solid and accessible overview of complex concepts, theories or related health problems (16). To develop the guiding question, the "Population-Concept-Context" (PCC) strategy was applied, where "P" is the ICU Nursing team, "C" is Mental health and "C" is the COVID-19 pandemic. Likewise, the following question was formulated: What is the ICU Nursing team's mental health like during the COVID-19 pandemic?

Data collection took place from January to April 2022, in the following data sources: Cumulative Index to Nursing and Allied Health Literature (CINAHL); Scopus Content Overview (Scopus), PubMed, Embase and Web of Science. The following descriptors available in the Medical Subject Headings (MeSH) were listed: "Intensive Care Units," "COVID-19," "Mental Health," and "Nurse". AND and OR Boolean operators were used. The following crossing was obtained: (("Intensive Care Units") AND ("nurse" OR "nurses" OR "nursing")) AND ("mental health" OR "mental illness" OR "mental disorder" OR "psychiatric illness") AND ("covid-19")).

The studies included were those conducted since 2020 (the year when the COVID-19 pandemic was declared), available in full in Spanish, English and Portuguese, which answered the research question. The articles excluded were those duplicated across the databases, as well as editorials, letters to the author, theoretical essays, literature reviews, dissertations, theses, and protocols.

Search and selection of the articles were the responsibility of two duly trained researchers, who worked independently through peer discussion. The State of the Art Through Systematic Review software was used as a support, which allows methodically organizing the development of literature reviews. Another researcher was consulted in case of disagreement. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) recommendations were adapted for this review (17).

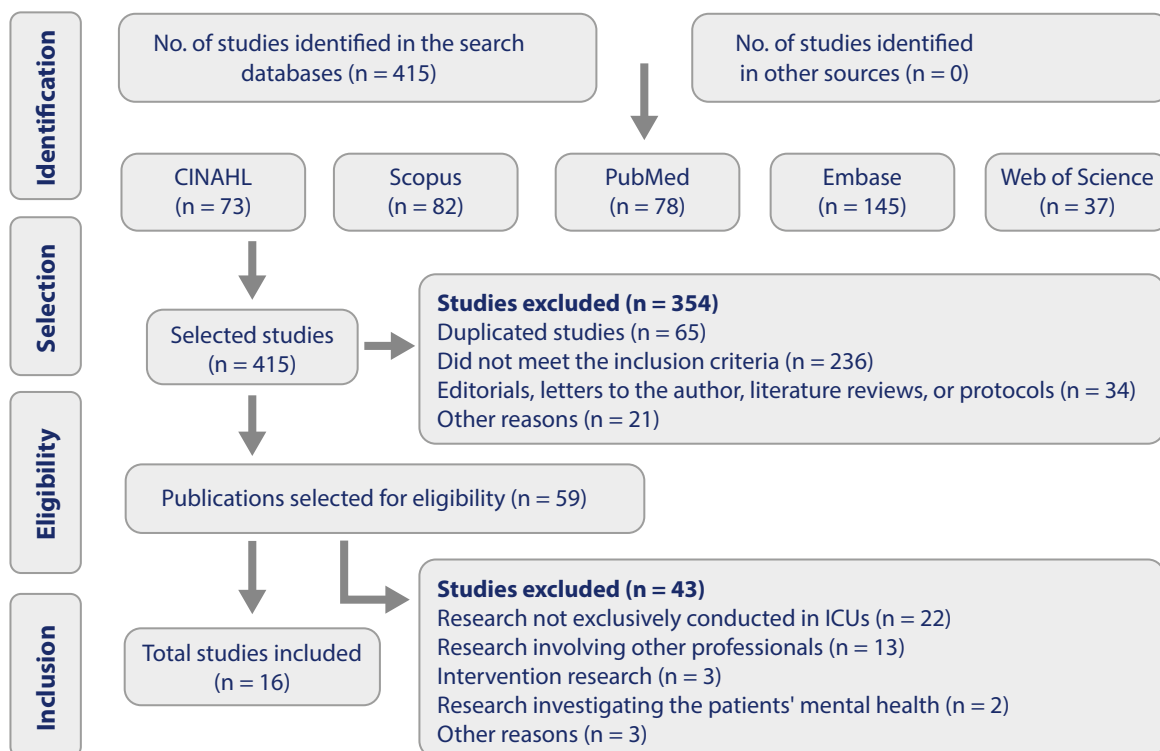
The data were extracted through a data collection instrument prepared by the researcher in charge, including the following variables: title, authors, year of publication, country, journal, impact factor, language, type of study, level of evidence, and the evidenced mental health conditions. The data were organized in a Microsoft Excel 2010 spreadsheet.

Regarding the analysis of the levels of evidence corresponding to the studies included in this research, the recommendations proposed by Oxford's Centre for Evidence-Based Medicine (18) were followed. For the diagnostic, treatment, and intervention studies, the following classification was observed: Level I – Randomized clinical trials; Level II – Prospective cohort studies; Level III – Retrospective cohort studies and case-control studies; Level IV – Case series; and Level V – Opinions or consensus. Studies related to etiology and prognosis followed this classification: Level I – Synthesis of cohort or case-control studies; Level II – Prospective cohort studies; Level III – Retrospective cohort studies; Level IV – Case series; and Level V – Opinions or consensus. In addition, the results were presented descriptively and visually, with the elaboration of figures and tables. The main findings were interpreted and discussed against the pertinent literature. For being an integrative literature review, this research waived submission to any Research Ethics Committee.

Results

A total of 45 manuscripts were identified. While selecting the materials, duplicate studies ($n = 65$) and those that did not meet the inclusion criteria ($n = 289$) were excluded. In the eligibility stage, 29 studies were read in full. After the thoughtful full-reading analysis, 16 articles were included in the current sample. Figure 1 presents the flowchart corresponding to the process to select the studies and comprise the sample.

Figure 1. Flowchart corresponding to the process to select the articles included in the research, according to the PRISMA 2020 adapted recommendations. Brazil, 2022



Source: Prepared by the authors.

The final study sample evidenced more publications in 2021 (80.5%), from countries in Europe (43.75%) and Asia (37.5%), with methodological designs corresponding to retrospective (62.5%) and prospective (25%) cohort studies, written in English (93.75%). Table 1 shows the characterization of the articles included in the study according to publication journal, impact factor, method, level of evidence, and country of origin. The main findings from each selected study can be seen in Table 2, along with their authors and years of publication.

Table 1. Characterization of the Studies. Brazil, 2022

No.	Journal/Impact Factor*	Method/Level of Evidence	Country of Origin
A1 (19)	<i>Revista da Escola de Enfermagem da USP</i> JCR 1.123	Retrospective cohort study/III	Brazil
A2 (20)	<i>BMJ Open</i> JCR 3.006	Case series/VI	China
A3 (21)	<i>Nursing in Critical Care</i> JCR 2.897	Prospective cohort study/II	China
A4 (22)	<i>Frontiers in Psychiatry</i> JCR 5.5	Prospective cohort study/II	China
A5 (23)	<i>Journal of Pain and Symptom Management</i> JCR 5.576	Prospective cohort study/II	China
A6 (24)	<i>Nursing in Critical Care</i> JCR 2.897	Prospective cohort study/II	Egypt
A7 (25)	<i>Nursing in Critical Care</i> JCR 2.897	Retrospective cohort study/III	Spain
A8 (26)	<i>American Journal of Critical Care</i> JCR 2.207	Retrospective cohort study/III	United States
A9 (27)	<i>Intensive & Critical Care Nursing</i> JCR 4.235	Retrospective cohort study/III	Netherlands
A10 (28)	<i>Journal of Family Medicine and Primary Care</i> JCR -2.82	Retrospective cohort study/III	Iran
A11 (29)	<i>Acta Biomed for Health Professions</i> SJR 1.8	Retrospective cohort study/III	Italy
A12 (30)	<i>Nursing in Critical Care</i> JCR 2.897	Case-control study/III	Nepal
A13 (31)	<i>Healthcare</i> JCR 3.160	Retrospective cohort study/III	Romania
A14 (32)	<i>Australian Critical Care</i> JCR 3.265	Retrospective cohort study/III	Sweden
A15 (33)	<i>Journal of Clinical Nursing</i> JCR 4.442	Retrospective cohort study/IV	Turkey
A16 (34)	<i>Intensive & Critical Care Nursing</i> JCR 4.235	Retrospective cohort study/III	Turkey

Key: Impact factor according to SCImago Journal Rank (SJR) or to Journal Citation Reports (JCR), 2021.

Source: Prepared by the authors.

Table 2. Main Findings from the Studies Related to the ICU Nursing Team's Mental Health. Brazil, 2022

No.	Authorship/Year	Main Findings
A119	Conz CA, Braga VAS, Vasconcelos R, Machado FHR da S, de Jesus MCP, Merighi MAB, 2021	The critical care of patients with COVID-19 affected nurses' mental and physical health. Emotional wear out was evidenced by experiencing illness and distancing from family members. The uncertainty regarding the care of patients with COVID-19 generated fear of contamination.
A220	Hu F, Ma J, Ding XB, Li J, Zeng J, Xu D et al., 2021	The nurses that provided care to patients infected by COVID-19 felt higher stress levels. All participants felt despair and abandonment.
A321	Leng M, Wei L, Shi X, Cao G, Wei Y, Xu H et al., 2021	Throughout the COVID-19 pandemic, ICU nurses showed some level of mental distress, such as post-traumatic stress disorder symptoms and perceived stress. The stress sources included working in an isolated environment, concerns about lack and use of equipment, high workload, fear of contagion, and insufficient work experience.
A422	Li J, Zhang Y, Li L, Yi W, Hao Y, Bi Y, 2021	During the pandemic, 44.9 % of ICU nurses had depression. In addition, the obligation to work overtime generated tension and difficulty to relax.
A523	Yifan T, Ying L, Chunhong G, Jing S, Rong W, Zhenyu L et al., 2020	ICU nurses presented somatic symptom disorder, among which was the prevalence of chest discomfort and palpitations, dyspnea, nausea, headache, dizziness, dry mouth, fatigue, drowsiness, sweating, and waist pain.
A624	Baraka AAE, Ramadan FH, Hassan EA, 2021	In this study, 38.5 % of the nurses presented severe stress; 10 %, extremely severe stress; 62 %, severe anxiety, and 34.5 %, moderate depression. The hospital's lack of human and physical resources and the number of colleagues infected with COVID-19 were the strongest predictors of stress, anxiety and depression.
A725	Peñacoba C, Catala P, Velasco L, Carmona-Monge FJ, Garcia-Hedra FJ, Gil-Almagro F, 2021	Nurses who worked in ICUs with patients infected with the SARS-CoV-2 virus showed high-stress levels and mental health deterioration.
A826	Guttormson JL, Calkins K, McAndrew N, Fitzgerald J, Losurdo H, Loonsfoot D, 2022	The nurses reported stress related to the lack of evidence-based treatment, poor patient prognosis, and absence of family members in the ICU. Physical and emotional symptoms were found, including exhaustion, anxiety, insomnia, and moral distress. Fear of contracting COVID-19 or infecting family members and friends was also prevalent.
A927	Heesakkers H, Zegers M, van Mol MMC, van den Boogaard M, 2021	There was a prevalence of anxiety (27%), depression (18.6%), and post-traumatic stress disorder (22.2%) symptoms, found in 256 (35.3%) nurses in the COVID-19 ICU; whereas 41.7% presented high work fatigue.
A1028	Belash I, Barzagar F, Mousavi G, Janbazian K, Aghasi Z, Ladari AT et al., 2021	The increased anxiety among nurses working in the COVID-19 ICU was associated with age, weekly working hours, pregnancy, cases of direct participation in resuscitation procedures, and observing patient death cases.
A1129	Vitale E, Galatola V, Mea R, 2021	The nurses reported a high anxiety component, especially linked to the fear of becoming infected and infecting their family members. In addition, there were reports of mild, moderate, and severe depressive status (37.4 %).

No.	Authorship/Year	Main Findings
A1230	Tamrakar P, Pant SB, Acharya SP, 2021	COVID-19 ICU nurses showed more psychiatric symptoms (90.4 %), anxiety (36.5 %) and depression (21.2 %) when compared to nurses in non-COVID-19 ICUs. Two participants had suicidal ideation, and all nurses (100 %) were afraid to pass the infection on to their family members.
A1331	Petrișor C, Breazu C, Doroftei M, Mărieș I, Popescu C, 2021	ICU nurses presented high moral distress levels throughout the pandemic, which was associated with anxiety, depression, and the intention to quit their jobs.
A1432	Hallgren J, Larsson M, Kjellén M, Lagerroth D, Bäckström C, 2022	The ICU nurses reported feeling insecure due to limited knowledge about the COVID-19 virus and how it spread. In addition, they experienced the fear of being infected and the uncertainty related to the safety of Personal Protective Equipment. They also presented somatic symptom disorder and feelings of helplessness, nervousness, and stress.
A1533	Kandemir D, Temiz Z, Ozhanli Y, Erdogan H, Kanbay Y, 2021	The ICU nurses presented scores for moderate to extremely severe depression (65.5 %), anxiety (58.3 %), stress (72.3 %), and moderate or severe insomnia (39.7 %).
A1634	Şanlıtürk D, 2021	Among the participants, 63 % and 20 % presented moderate and high-stress levels, respectively. This result was because of the fear of contracting the virus at any moment, due to the asymptomatic characteristic of the COVID-19 disease in some people.

Source: Prepared by the authors.

Thus, it was possible to create a summary chart of the mental dysfunctions in the ICU Nursing teams during the COVID-19 pandemic. Anxiety, depression, stress, and fear stand out as the most prevalent conditions in the Nursing team. Table 3 shows the disorders and the studies in which they were found.

Table 3. Synthesis Chart of the Mental Disorders in the ICU Nursing Professionals during the COVID-19 Pandemic. Brazil, 2022

Anxiety (A6; A8; A9; A10; A11; A12; A13; A15)
Depression (A4; A6; A8; A9; A11; A12; A13; A15)
Stress (A2; A3; A6; A7; A8; A9; A14; A15; A16)
Fear (A1; A3; A8; A11; A12; A14; A16)
Fatigue (A5; A9)
Insomnia (A8; A11; A15)
Somatic symptom disorder (A5; A14)
Insecurity (A14)
Nervousness (A14)
Suicidal ideation (A12)
Sensation of impotence (A14)
Emotional wear out (A1)

Source: Prepared by the authors.

Additionally, this study evidenced causal factors associated with the presence of these disorders in the mental health of these professionals. Uncertainty regarding patient care due to the lack of evidence-based treatment, absence of human and physical resources, work overload, and insufficient work experience was included. In the ICU, there is the aggravation inherent to the structural physical scope, as it is an isolated environment permeated by poor health prognoses, with frequent deaths. Finally, the number of colleagues infected and the fear of infecting themselves and their family members due to the virus' high transmissibility rate are also mentioned.

Discussion

The ICU Nursing work in the treatment of COVID-19 patients during the pandemic led to damages to these individuals' mental health. These professionals presented high anxiety, depression, stress and fear levels. The pandemic exerted an immense effect on health professionals' general and mental health, many of whom faced this challenge in dire conditions and without institutional support, with impacts not only at a professional level but also on their morale and overall determination (35-37).

The anxiety of health professionals who worked on the front line against the pandemic was shown in this study as the most prevalent impairment, a fact that corroborates with studies showing the significant increase of this condition when compared to previous periods (37). Nurses are the most affected due to factors such as being mainly female, pre-existing diseases, physical symptoms of COVID-19, prolonged exposure to patients with COVID-19, and the fact that they work in an ICU (38).

The prevalence of depression in the studies analyzed denotes an extremely relevant factor. This phenomenon is associated with Nursing professionals' mental overload caused by concern about increased COVID-19 infection rates among professionals and excessive work in inappropriate conditions. Thus, the professionals who experienced the pandemic were more prone to developing psychological disorders, such as depression (36, 39).

The feeling of fear was found in most of the studies selected for this research; the motivations were associated with the fear of becoming infected or infecting family members and, consequently, leading them to death. A previous research study pointed to fear as one of the main feelings stated by the Nursing team, involving the fear of contaminating themselves or others and losing family members (40).

In addition, a significant increase in work-related fatigue and the presence of insomnia in ICU professionals were evidenced. A study observed that most of the professionals presented loss of sleep quality and constant tiredness, mainly due to the high work demand to which they were subjected. In addition, symptoms such as

headache, nervousness and sadness were found, confirming the physical and psychological effects of the pandemic period (41).

Thus, health professionals that work directly with patients with COVID-19 in high-risk environments presented more psychological symptoms when compared to those from other sectors. Direct assistance to people infected with the virus led to increased concerns about infecting family members and to higher anxiety, stress, insomnia and depression levels due to increased fear. In addition, nurses have the highest workload and the longest contact time in care provision, which act as determining factors in the deterioration of their mental health (42).

In this regard, the increase in the number of professionals infected and away from work caused overload to the teams, contributing to psychological exhaustion and feelings of loneliness and increased stress in this population (43, 44). A study developed with an ICU Nursing team showed that the prevalence of Burn-out syndrome was 25.5% throughout the COVID-19 pandemic, a consequence of the high-stress levels in this population segment, among other reasons. Within the main causal factors, there is emotional exhaustion and depersonalization, arising from overtime and rigid workloads (37, 43). These data corroborate those found in the current study.

Thus, it is indispensable to consider the relevance of ICU Nursing work, especially in emergencies, such as the COVID-19 pandemic situation. In addition to that, it is necessary to provide adequate working conditions and psychosocial support to preserve these professionals' mental health to guarantee the quality of the care provided (42). Countless studies reveal the need to offer psychological monitoring to the professionals who worked directly in coping with the pandemic, both in the short- and long-term, due to the intrinsic and unique characteristics of a global public health emergency (45-47).

Studies on the harms caused to ICU Nursing professionals' mental health during the pandemic period contribute to implementing actions targeted at five-year prevention, which aims at providing biopsychosocial care to the professionals, given the importance of preserving their health to ensure patient safety (48, 49). The pandemic period evidenced the relevance of this fifth aspect as indispensable to maintaining quality in terms of care and the work environment, reflecting on the strengthening of the health system (50).

Thus, investments in the area of caregivers' health are necessary to ensure safe health care. Nursing professionals are important actors in the provision of humanized care, focused on welcoming, directed listening and comforting patients. However, when these professionals are emotionally shaken, the nature of care is weakened. Thus, it is encouraged to carry out new research studies

with greater methodological depth, to point out the mental health indicators of this population group and the measures adopted for its mitigation during the viral infection by the new coronavirus.

The type of study and the number of databases listed stand out as a limitation, which precludes comparing the articles analyzed and monitoring the daily evolution of the findings. For being an emerging topic, new scientific findings are published every day.

Conclusions

The results allowed identifying the conditions that affected the mental health of ICU Nursing teams during the COVID-19 pandemic, focusing on depression, anxiety, stress, and fear. Such conditions were mainly caused by the lack of evidence-based health-disease treatment, the deficit in human and physical resources, the care environment that was isolated from the other sectors, and the constant increase in the number of viral infections among professionals and their family members.

Thus, it is emphasized that preventing mental illness in Nursing teams should be considered an indispensable element for care quality and safety. It is necessary to implement policies, strategies, and methods to improve the psychological conditions of these professionals and thus ensure better quality in the services provided.

Conflict of interest: None declared

References

1. World Health Organization. WHO COVID-19 dashboard [Internet]. Available from: <https://covid19.who.int/>
2. Talevi D, Socci V, Carai M, Carnaghi G, Faleri S, Trebbi E et al. Mental health outcomes of the COVID-19 pandemic. *Riv Psichiatr.* 2020;55(3):137-44. DOI: <https://doi.org/10.1708/3382.33569>
3. Lima CKT, Carvalho PMM, Lima IAAS, Nunes JVAO, Saraiva JS, de Souza RI et al. The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease). *Psychiatry Res.* 2020;287:112915. DOI: <https://doi.org/10.1016/j.psychres.2020.112915>
4. Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *J Affective Disord.* 2020;277:55-64. DOI: <https://doi.org/10.1016/j.jad.2020.08.001>
5. Barros MBA, Lima MG, Malta DC, Szwarcwald CL, Azevedo RCS, Romero D et al. Relato de tristeza/depressão, nervosismo/ansiedade e problemas de sono na população adulta brasileira durante a pandemia de COVID-19. *Epidemiol Serv Saúde.* 2020;29(4):e2020427. DOI: <https://doi.org/10.1590/s1679-49742020000400018>
6. Biber J, Raney B, Lawrence S, Malpani V, Trinh TT, Cyders A et al. Mental health impact on healthcare workers due to the COVID-19 pandemic: A U.S. cross-sectional survey study. *J Patient-Reported Outcomes.* 2022;6(1):63. DOI: <https://doi.org/10.1186/s41687-022-00467-6>
7. Martín-Rodríguez LS, Escalada-Hernández P, Soto-Ruiz N, Ferraz-Torres M, Rodríguez-Matesanz I, García-Vivar C. Mental health of Spanish nurses working during the COVID-19 pandemic: A cross-sectional study. *Int Nurs Rev.* 2022;69:538-45. DOI: <https://doi.org/10.1111/inr.12764>
8. Goh KJ, Wong J, Tien JC, Ng SY, Duu Wen S, Phua GC et al. Preparing your intensive care unit for the COVID-19 pandemic: practical considerations and strategies. *Crit Care.* 2020;24(215):1-12. DOI: <https://doi.org/10.1186/s13054-020-02916-4>
9. Dal'Bosco EB, Floriano LSM, Skupien SV, Arcaro G, Martins AR, Anselmo ACC. The mental health of nursing in coping with COVID-19 at a regional university hospital. *Rev Bras Enferm.* 2020;73(sup. 2):e20200434. DOI: <https://doi.org/10.1590/0034-7167-2020-0434>
10. Sánchez-Romero S, Ruiz-Fernández MD, Fernández-Medina IM, del Mar Jiménez-Lasserrotte M, Del Rocío Ramos-Márquez M, Ortega-Galán ÁM. Experiences of suffering among nursing professionals during the COVID-19 pandemic: A descriptive qualitative study. *Appl Nurs Res.* 2022;66:151603. DOI: <https://doi.org/10.1016/j.apnr.2022.151603>
11. Awan S, Diwan MN, Aamir A, Allahuddin Z, Irfan M, Carano A et al. Suicide in healthcare workers: Determinants, challenges, and the impact of COVID-19. *Front Psychiatry.* 2022;12:792925. DOI: <https://doi.org/10.3389/fpsy.2021.792925>

12. Huang L, Lin G, Tang L, Yu L, Zhou Z. Special attention to nurses' protection during the COVID-19 epidemic. *Crit Care*. 2020;24(1):120. DOI: <https://doi.org/10.1186/s13054-020-2841-7>
13. Keles E, Bektemur G, Baydili KN. COVID-19 deaths among nurses: a cross-sectional study. *Occup Med (Lond)*. 2021;71(3):131-5. DOI: <https://doi.org/10.1093/occmed/kqab035>
14. Robles-Pérez E, González-Díaz B, Miranda-García M, Borja-Aburto VH. Infection and death by COVID-19 in a cohort of healthcare workers in Mexico. *Scand J Work Environ Health*. 2021;47(5):349-55. DOI: <https://doi.org/10.5271/sjweh.3970>
15. Moreira AS, Lucca, SR. Apoio psicossocial e saúde mental dos profissionais de enfermagem no combate ao covid-19. *Enfermagem Foco*. 2020;11(1)ESP:155-61. DOI: <https://doi.org/10.21675/2357-707X.2020.v11.n1.ESP.3590>
16. Whittemore R; Knafl K. The integrative review: Updated methodology. *J Advanced Nurs*. 2005;52(5):546-53. DOI: <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
17. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*. 2021;372(71):1-9. DOI: <https://doi.org/10.1136/bmj.n71>
18. Howick J, Chalmers I, Glasziou P, Greenhalgh T, Heneghan C, Liberati A et al. Explanation of the 2011 Oxford Centre for Evidence-Based Medicine (OCEBM) Levels of Evidence. Oxford Centre for Evidence-Based Medicine. Available from: <https://www.cebm.ox.ac.uk/resources/levels-of-evidence/ocebmllevels-of-evidence>
19. Conz CA, Braga VAS, Vasconcelos R, Machado FHR da S, de Jesus MCP, Merighi MAB. Experiences of intensive care unit nurses with COVID-19 patients. *Rev Esc Enferm USP*. 2021;55:e20210194. DOI: <https://doi.org/10.1590/1980-220X-reeus-2021-0194>
20. Hu F, Ma J, Ding XB, Li J, Zeng J, Xu D et al. Nurses' experiences of providing care to patients with COVID-19 in the ICU in Wuhan: A descriptive phenomenological research. *BMJ Open*. 2021;11(9):e045454. DOI: <https://doi.org/10.1136/bmjopen-2020-045454>
21. Leng M, Wei L, Shi X, Cao G, Wei Y, Xu H et al. Mental distress and influencing factors in nurses caring for patients with COVID-19. *Nurs Crit Care*. 2021;26(2):94-101. DOI: <https://doi.org/10.1111/nicc.12528>
22. Li J, Zhang Y, Li L, Yi W, Hao Y, Bi Y. Predictive Analysis of Factors Influencing Depression Status of Nurses in the COVID-19 Pandemic Intensive Care Unit. *Front Psychiatry*. 2021;12:596428. DOI: <https://doi.org/10.3389/fpsy.2021.596428>
23. Yifan T, Ying L, Chunhong G, Jing S, Rong W, Zhenyu L et al. Symptom Cluster of ICU Nurses Treating COVID-19 Pneumonia Patients in Wuhan, China. *J Pain Symptom Manage*. 2020;60(1):e48-e53. DOI: <https://doi.org/10.1016/j.jpainsymman.2020.03.039>
24. Baraka AAE, Ramadan FH, Hassan EA. Predictors of critical care nurses' stress, anxiety, and depression in response to COVID-19 pandemic [published online ahead of print, 2021 Aug 31]. *Nurs Crit Care*. 2021;28(2):177-83. DOI: <https://doi.org/10.1111/nicc.12708>
25. Peñacoba C, Catala P, Velasco L, Carmona-Monge FJ, Garcia-Hebrero FJ, Gil-Almagro F. Stress and quality of life of intensive care nurses during the COVID-19 pandemic: Self-efficacy and resilience as resources. *Nurs Crit Care*. 2021;26(6):493-500. DOI: <https://doi.org/10.1111/nicc.12690>
26. Guttormson JL, Calkins K, McAndrew N, Fitzgerald J, Losurdo H, Loonsfoot D. Critical Care Nurses' Experiences During the COVID-19 Pandemic: A US National Survey. *Am J Crit Care*. 2022;31(2):96-103. DOI: <https://doi.org/10.4037/ajcc2022312>
27. Heesakkers H, Zegers M, van Mol MMC, van den Boogaard M. The impact of the first COVID-19 surge on the mental well-being of ICU nurses: A nationwide survey study. *Intensive Crit Care Nurs*. 2021;65:103034. DOI: <https://doi.org/10.1016/j.iccn.2021.103034>
28. Belash I, Barzagar F, Mousavi G, Janbazian K, Aghasi Z, Ladari AT et al. COVID-19 pandemic and death anxiety among intensive care nurses working at the Hospitals Affiliated to Tehran University of Medical Science. *J Family Med Prim Care*. 2021;10(7):2499-502. DOI: https://doi.org/10.4103/jfmpc.jfmpc_2105_20
29. Vitale E, Galatola V, Mea R. Observational study on the potential psychological factors that affected Italian nurses involved in the COVID-19 health emergency. *Acta Biomed*. 2021;92(S2):e2021007. DOI: <https://doi.org/10.23750/abm.v92iS2.11305>
30. Tamrakar P, Pant SB, Acharya SP. Anxiety and depression among nurses in COVID and non-COVID intensive care units. *Nurs Crit Care*. 2021;28(2):272-80. DOI: <https://doi.org/10.1111/nicc.12685>
31. Petrișor C, Breazu C, Doroftei M, Mărieș I, Popescu C. Association of Moral Distress with Anxiety, Depression, and an Intention to Leave among Nurses Working in Intensive Care Units during the COVID-19 Pandemic. *Healthcare*. 2021;9(10):1377. DOI: <https://doi.org/10.3390/healthcare9101377>
32. Hallgren J, Larsson M, Kjellén M, Lagerroth D, Bäckström C. 'Who will do it if I don't?' Nurse anaesthetists' experiences of working in the intensive care unit during the COVID-19 pandemic. *Aust Crit Care*. 2022;35(1):52-8. DOI: <https://doi.org/10.1016/j.aucc.2021.11.003>
33. Kandemir D, Temiz Z, Ozhanli Y, Erdogan H, Kanbay Y. Analysis of mental health symptoms and insomnia levels of intensive care nurses during the COVID-19 pandemic with a structural equation model. *J Clin Nurs*. 2022;31(5-6):601-11. DOI: <https://doi.org/10.1111/jocn.15918>
34. Şanlıtürk D. Perceived and sources of occupational stress in intensive care nurses during the COVID-19 pandemic. *Intensive Crit Care Nurs*. 2021;67:103107. DOI: <https://doi.org/10.1016/j.iccn.2021.103107>
35. Saragih ID, Tonapa SI, Saragih IS, Advani S, Batubara SO, Suarilah I et al. Global prevalence of mental health problems among healthcare workers during the Covid-19 pandemic: A systematic review and meta-analysis. *Int J Nurs Stud*. 2021;121:104002. <https://doi.org/10.1016/j.ijnurstu.2021.104002>
36. Guttormson JL, Calkins K, McAndrew N, Fitzgerald J, Losurdo H, Loonsfoot D. Critical Care Nurse Burnout, Moral Distress, and Mental Health During the COVID-19 Pandemic: A United States Survey. *Heart Lung*. 2022;55:127-33. DOI: <https://doi.org/10.1016/j.hrtlng.2022.04.015>
37. Vroege L, van den Broek A. Substantial Impact of COVID-19 on Self-Reported Mental Health of Healthcare Professionals in the Netherlands. *Front Public Health*. 2022;9:796591. DOI: <https://doi.org/10.3389/fpubh.2021.796591>
38. Chutiya M, Cheong AMY, Salihu D, Bello UM, Ndwiga D, Maharaj R, Naidoo K et al. COVID-19 Pandemic and overall mental health of healthcare professionals globally: A meta-review of systematic reviews. *Front Psychiatry*. 2022;12:804525. DOI: <https://doi.org/10.3389/fpsy.2021.804525>
39. Chirico F, Ferrari G, Nucera G, Szarpak L, Crescenzo P, Ilesanmi O. Prevalence of anxiety, depression, burnout syndrome, and mental health disorders among healthcare workers during the COVID-19 pandemic: A rapid umbrella review of systematic reviews. *J Health Soc Scien*. 2021;6(2):209-20. Available from: https://journalhss.com/wp-content/uploads/jhss_62_209-220.pdf

40. Humerez DC, Ohl RIB, Silva MCN. Saúde mental dos profissionais de enfermagem do Brasil no contexto da pandemia covid-19: ação do conselho federal de enfermagem. *Cogitare Enfermagem*. 2020;25:e74115. DOI: <https://doi.org/10.5380/ce.v25i0.74115>
41. Santos WJ, Liva RB, Rodrigues DF, Farias ICV, Moura GJB. Transtornos Mentais Comuns em Trabalhadores de uma Unidade de Terapia Intensiva Durante Pandemia de COVID-19. *Rev Psicolog*. 2021;15(57):149-62. DOI: <https://doi.org/10.14295/online.v15i57.3179>
42. Chigwedere OC, Sadath A, Kabir Z, Arensman E. The impact of epidemics and pandemics on the mental health of healthcare workers: A systematic review. *International Journal Environ Res Pub Health*. 2021;18(13):6695. DOI: <https://doi.org/10.3390/ijerph18136695>
43. Freitas RF, Barros IM, Miranda MAF, Freitas TF, Rocha JSB, Lessa AC. Preditores da síndrome de Burnout em técnicos de enfermagem de unidade de terapia intensiva durante a pandemia da COVID-19. *J Bras Psiquiatria*. 2021;70(1):12-20. DOI: <https://doi.org/10.1590/0047-2085000000313>
44. Kotera Y, Ozaki A, Miyatake H, Tsunetoshi C, Nishikawa Y, Kosaka M et al. Qualitative investigation into the mental health of healthcare workers in Japan during the COVID-19 pandemic. *Int J Environ Res Public Health*. 2022;19(1):568. DOI: <https://doi.org/10.3390/ijerph19010568>
45. Pfefferbaum B, North CS. Mental health and the Covid-19 pandemic. *New England J Med*. 2020;383(6):510-12. DOI: <https://doi.org/10.1056/NEJMp2008017>
46. Kim SC, Rankin L, Ferguson J. Nurses' mental health from early COVID-19 pandemic to vaccination. *J Nurs Scholarsh*. 2022;54(4):485-92. DOI: <https://doi.org/10.1111/jnu.12760>
47. Van Wert MJ, Gandhi S, Gupta I, Singh A, Eid SM, Haroon Burhanullah M et al. Healthcare Worker Mental Health After the Initial Peak of the COVID-19 Pandemic: A US Medical Center Cross-Sectional Survey. *J Gen Intern Med*. 2022;37(5):1169-76. DOI: <https://doi.org/10.1007/s11606-021-07251-0>
48. Souza LP, Silva MLAR, Siqueira RP. Prevenção quinquenária na unidade de terapia intensiva em época de pandemia: uma necessidade emergente. *J Manag Prim Health Care*. 2021;13:e022. DOI: <https://doi.org/10.14295/jmphc.v13.1142>
49. Santos JA. Prevenção quinquenária: prevenir o dano para o paciente, atuando no médico. *Rev Port Med Geral Fam*. 2014;30(3):152-4. DOI: <https://doi.org/10.32385/rpmgf.v30i3.11358>
50. Silva BC, Pinto FF, Araujo I. A relevância da prevenção quinquenária na qualidade de vida dos profissionais de saúde. *RECIMA21*. 2023;4(1):e412525. <https://doi.org/10.47820/recima21.v4i1.2525>