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PREVALENCE OF STRESS, ANXIETY AND DEPRESSION IN NURSING PROFESSIONALS IN CRITICAL COVID-19 UNITS

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ABSTRACT

Objective: to analyze the prevalence of stress, anxiety and depression in nursing professionals in critical units of covid-19, as well as its prevalence. **Method:** integrative literature review carried out in the informational resources PubMed, Cochrane, LILACS, BDNF, and SciELO using the descriptors: COVID-19; Intensive care units; Mental health; Anxiety; Nursing, with articles published between 2020 and 2021. **Results:** 10 complete studies were selected for interpretive analysis. Factors such as lack of knowledge about the disease, work overload, lack of personal protective equipment, among others, were identified as the main factors associated with the development and elevation of anxiety, stress and depression in nursing professionals working in the care of critically ill patients infected by COVID-19. **Conclusion:** it was evidenced that nursing professionals experienced significant psychological distress caused by the COVID-19 pandemic. And that these sufferings.

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INTRODUCTION

According to Resolution n° 7 of 2010 of the Ministry of Health, an intensive care unit (ICU) is an area assigned to the hospitalization of critically ill patients, who need uninterrupted professional and specialized care, primary technologies for diagnosis, characteristic materials, continuous monitoring and treatment.¹ In this environment, intensive care is directed towards the recovery of patients in an adequate environment within the necessary time, where the professional must be trained to carry out complex activities with theoretical basis, leadership, responsibility and practice. Due to the anticipation of emergencies, the technical complexity and the demand for the conditions of critically ill patients, there are many stressful situations in ICUs, thus characterizing intensive care work by high pressure and emotional instability for both the professional and the

patient and their family². In the current context, it is notable that the incidence of stress, anxiety, depression and Burnout Syndrome (BS) in health professionals has increased considerably when compared to the last 3 years. This is justified by the fact that the COVID-19 pandemic provides situations that drive psychological and psychosocial changes of these professionals working in the care of the patient infected by COVID 19, such as uncertainties about the disease, work overload due to the removal of infected professionals, crisis of supply of materials and personal protective equipment (PPE) among others. This complex viral disease that affects vital organs such as the lungs, heart, kidneys, liver and brain, had its local epidemic confirmed in Wuhan, China, in 2019. However, due to its high infectivity and high pathogenicity, it quickly spread through several countries. countries, no longer calling it an epidemic, but a pandemic resulting from the SARS-COV-2 virus or simply a COVID-19 pandemic³.

After its advance, the rate of ICU admissions increased exponentially. And due to their lack of knowledge of the correct therapy, it considerably increased the incidence of complications and mortality of patients in the ICU environment. Faced with this pandemic scenario, the health systems of all affected countries were overloaded, leading to several of these systems to collapse, thus contributing to a high rate of stress, anxiety, depression and SB of health professionals, among them the nursing team⁴. Because it is the largest team that is always at the bedside, due to the progressively increasing number of confirmed and suspected cases, nursing suffers from intense working hours, lack of Personal Protective Equipment (PPE) and supplies, absenteeism, and emotional exhaustion. mainly due to the increase in the number of deaths. These factors can contribute to the load of stress, anxiety, depression and SB professionals, who perform direct care being twenty-four hours with critical patients⁵. This study is justified due to the need to understand the psychological aspects that nursing professionals experience in response to the COVID-19 pandemic in order to understand the pressures exerted on them. However, this study started from the following guiding question: What are the triggering factors for stress, anxiety and depression in nursing professionals in critical units of covid-19?

Thus, this study aimed to analyze, through the literature, the factors associated with stress, anxiety and depression in nursing professionals in critical units of covid-19, as well as to discuss their prevalence and their predictors.

METHODS

This was an integrative literature review study with the aim of systematize the factors associated with stress, anxiety and depression in nursing professionals working in the direct care of critically ill patients infected by covid-19. To that end, this study covered the following steps: identification of the research question; protocol; definition of eligibility criteria; database search; selection of appropriate studies; data collect; analysis of results, assessment of the risk of bias in the studies. In order to build a complete search, a strategy was defined based on the elements of PICO (Patient; Intervention; Comparison; Outcome) present in the title of this study. The acronym "P" (population) corresponds to nursing professionals who work in critical units of covid-19; the "I" (intervention), the early recognition of stress, anxiety and depression; the "C" (comparison) relates to nursing professionals who had improved quality of life through the early recognition of these disorders, finally, the "O" (outcome), with the early recognition of mental health care and interventions there was a large increase in the number of this public with an improvement in the quality of life because of care and interventions. The search strategy was carried out through the following databases: PubMed; Cochrane Database of Systematic Reviews (CDSR), Cochrane Central Register of Controlled Trials (CENTRAL) via Cochrane Library, MEDLINE via VHL, LILACS, BDENF, and Scielo. Subsequently, the selected keywords were applied in search platforms using combinations through Boolean operators (AND, OR and NOT) resulting in a detailed search. The study eligibility method was carried out in three phases: Thematic; Abstract and Full Articles.

The inclusion criteria for this study consisted of: full articles that portrayed the theme referring to articles published and indexed in the aforementioned databases from 2020 to 2021; single, randomized clinical trials, prospective and retrospective observational studies; nursing professionals who had improved quality of life through early recognition of these disorders. Furthermore, without excluding any language. Studies that were repeated, those that did not focus on stress, anxiety and depression in nursing professionals in critical covid-19 units, or that did not refer to stress, anxiety and depression in nursing professionals were excluded. Data extraction consisted of reading the selected articles in full, recording the main ideas and results, followed by digitization and organization of the main results in a spreadsheet in Microsoft Office Excel (2019) where items such as: authors and year of publication, design of selected studies, number

and characterization of participants and the main factors associated with the development or increase of psychological changes such as anxiety, stress and depression of professionals working in the care of critically ill patients who are victims of COVID-19. After data collection, the results were analyzed, presented and discussed.

Table 1. Flowchart of the study selection process

Total studies identified with the descriptors (N: 1352)
PUBMED: 1240
SCIELO: 50
COCHARANE LIBRARY: 36
LILACS: 15
BDENF: 11
SELECTION
No. of excluded studies (N: 1200)
Absence of relationship with the theme: 600
Do not rate the objective: 600
ELIGIBILITY
Eligible articles (N: 152)
Excluded by duplication: 68
Excluded for not focusing on the objective: 26
Excluded due to unavailability: 48
INCLUSION
Articles analyzed included (N: 10)
PUBMED: 3
SCIELO: 2
COCHARINE LIBRARY: 0
LILACS: 5
BDENF: 0

Source: Prepared by the author himself.

RESULTS

In an initial screening, 1352 articles were identified. After applying the filters (original articles), 1200 articles were identified. After applying the second filter (published between 2020 and 2021), a total of 152 articles resulted. These were subjected to reading the title and abstracts, which resulted in a total of 36 articles. After the complete reading of these 36 articles, a total of 10 articles were selected to be part of the research corpus. These articles were evaluated in detail and their characteristics and main findings were described in Table 1. In order to organize the publications studied, they were arranged in a table, containing data such as author and year of publication, article design and main factors associated with the emergence or increase of stress, anxiety and depression in the nursing team working in the care of patients. critically ill patients with COVID 19.

The information was organized in descending order by year of publication (Table 1). It was found that there was a higher occurrence of publication of articles with the proposed theme in 2021, with 70 (70%) of the total articles included in the study, 30 (30%) were from the year 2020. According to the nature of the studies, it was verified that whereas 70 (70%) are cross-sectional studies, 20 (20%) are convergent mixed-method studies, 10 (10%) are field research, descriptive and exploratory with a qualitative approach. In general, the studies indicate that the incidence of stress, anxiety and depression in the nursing team working in the context of the COVID 19 pandemic in the care of critical patients, in addition to Burnout Syndrome (BS) are quite high. And when analyzing its incidence individually, there was a similarity between the numbers of cases when compared to each other, and that the care of critically ill patients with COVID-19 can be directly responsible for the development of psychic alterations or changes in the mood of professionals. of nursing. In two studies, anxiety, stress and depression were present in nursing professionals in up to 67 (67%) of the participants. Two other studies demonstrate an incidence that can reach up to 39.6 (39.6%) for anxiety and depression.^{2,6,7,9} In four studies, when analyzing the presence of psychological disorders, in the nursing team working in the care of critically ill patients with COVID 19 during the pandemic, it was found that BS and post-traumatic stress had an incidence rate higher than 22, 2 (22.2%).⁹⁻¹²

Table 2. Characterization of the scientific articles included in this study; 2021

Author, year	Method	N (number of study participants)	Incidence of stress, depression and anxiety.	Factors associated with stress, anxiety, depression.
Zheng R. et al., 2021. ²	Cross-sectional study.	N=617. EN=617.	15.9% of the participants reported having some symptoms of depression, 32.6% reported symptoms of anxiety and 18% reported symptoms of stress.	Work in: Isolation ward with suspected or confirmed COVID-19. Coming in contact with patient body fluids or blood.
Han, L. et al. 2020. ⁶	Cross-sectional study.	N=22,034 EN=22,034.	For anxiety levels, the participants presented 79.4% normal, 15.9% mild, 3.9% moderate, 0.8% severe. For levels of depression, participants were 71.3% normal, 20.4% mild, 6.9% moderate, 1.3% severe.	Nurses facing the COVID-19 outbreak, demographic background, psychosocial and work-related factors predicted psychological responses.
Crowe, S. et al., 2021. ⁷	Convergent mixed method study.	N=124. EN=124.	23% of participants reported clinical concern, 13% probable and 38% significant PTSD symptoms, 57% mild to severe depression, 67% anxiety, and 54% stress.	Rapid change of policy and information, overwhelming and unclear communication, meeting patient needs in new ways, managing personal life.
Dal Bosco, EB, et al., 2020. ⁸	Cross-sectional observational study.	N=88. EN=31. NT=44. AP=13.	48.9% of the participants had a prevalence of stress, and in 25% there was a prevalence of depression.	Work overload, daily exposure, care for critically ill patients, intensive and direct care and bureaucratic functions.
Santos, KMR, et al., 2021. ⁹	Cross-sectional study of the web surveytype.	N=490. EN=292. NT=198.	39.6% had symptoms of anxiety, 38% had symptoms of depression. Burnout symptoms were present in 62.4% of professionals.	Working in a private employment relationship, having symptoms of Burnout, being a service professional with no structure for the pandemic, having a public or private relationship.
Freitas, RF, et al., 2020. ¹⁰	Descriptive, cross-sectional study with a quantitative approach.	N=94. NT=94.	25.5% participants had a prevalence of Burnout Syndrome.	Rigid working hours, overtime, having more than one employment relationship and behavioral factors.
Horta, RL; et al., 2021. ¹¹	Cross-sectional study.	N=123. PE=94. AD=29.	40% of the participants reported scores compatible with common mental disorders, 45% had a score equal to or greater than 25 points for the Perceived Stress Scale. Burnout was present for 41% of the group.	Stress, fear, insecurity, high workload.
Heesakkers H., et al., 2021. ¹²	Cross-sectional study.	N=726. EN=726.	Anxiety symptoms (27%), depression symptoms (22.2%) and post-traumatic stress disorder (22.2%) were reported by respondents.	Fear of infecting relatives, working in a university hospital, insufficient number of co-workers.
Gil, MTG, et al., 2021. ¹³	Cross-sectional study.	N=557. EN=557.	53.5% of participants reported emotional exhaustion and 44.9% have difficulty expressing emotions.	Work overload, fear of contamination and its consequences, high rates of patient nurses.
Lima, CT; Santana, NCM; 2021. ¹⁴	Field research, descriptive and exploratory, with a qualitative approach.	N=6. EN=6.	85% of participants feel nervous, irritated, lacking autonomy and lacking in confidence.	Excessive working hours, more than one job, little appreciation, no prospects for growth, negative effects on personal life, they do not participate in training.

Captions: (N) = number of study participants, (EN) = Nurses, (NT) = Nursing technicians and/or assistants, (NP) = Nursing Professionals, (AP)=Administrative Professionals, (DA)= Others areas.

Two other studies, when analyzing the triggering factors of emotional exhaustion and other emotional factors involving health professionals, among them the nursing team, showed a rate higher than 40 (40%) of respondents.^{13,14} Regarding the causal factors of stress, anxiety and depression in the nursing team working in the care of critically ill patients in the context of the COVID19 pandemic, these factors were multicausal. However, some factors were highlighted in this context, such as work overload, absenteeism and uncertainty about the disease and exposure to the virus. These factors manifested themselves more intensely during the pandemic, both individually and collectively among professionals.

DISCUSSION

COVID-19, a disease caused by the new coronavirus, is a viral respiratory infection that affects epithelial, alveolar and endothelial cells, leading to viral changes causing acute respiratory distress syndrome (SARS) in the most severe cases. SARS is caused by an acute inflammatory response in the alveoli, which hinders gas exchange between oxygen and carbon dioxide, and is observed by severe respiratory distress and low blood oxygen saturation.¹⁵ Mortality among nursing professionals in Brazil during the pandemic on November 6, 2021 was a total of 869 deaths, of which 830 are confirmed cases of COVID-19, 39 are suspected cases, of this number

of deaths 68.12% were female. The peak occurred on March 2, 2021, with an evolution of 46 nursing deaths. A total of 58,971 cases of COVID-19 were reported in nursing professionals with a case fatality rate of 2.64%.¹⁶ In the work environment, it is possible to observe as potential stressors in health professionals the stress of work overload, lack of medication and PPE, long working hours, exposure to the virus, the increase in confirmed or suspected cases, fear of becoming infected, fear of death, feeling of helplessness, irritability behaviors, among other feelings that generate stress, anger and even depression.¹⁷ In this sense, since March 2020, for nursing, the daily life of the pandemic is very stressful, with painful measures of protection and isolation, constant deaths, exposure to the virus and the uncertainty of how to deal with it. It is important to understand that the repercussion caused is not just by the coronavirus, being healthy or not. Anxiety and stress symptoms increase in pandemic situations among health professionals, as can be seen in the analyzed studies. Studies compared three groups of nurses working in a community hospital during the SARS outbreak. These groups comprised those who naturally worked in units with a high risk of being exposed to SARS, those who were automatically recruited to high-risk units because of staffing needs, and those who worked in units with little risk of being exposed to SARS. The analysis showed that both groups of nurses working in the high-risk groups experienced higher degrees of anxiety, depression, hostility and somatization when related to the low-risk group, with the recruited group experiencing the most severe

distress on average.⁶ However, the study reports that 41.1% of Chinese nurses indicated a prevalence of anxiety, a fact considered higher than society in general, taking into account the psychic well-being of nurses suffering from emotional stress, high-risk circumstances and experiences unfavorable.⁶ In this way, studies indicate that the prevalence of anxiety among nursing workers was higher than the instability identified, between 22.6% and 36.3%, in a systematic review and meta-analysis of 12 studies carried out with a total of 31,756 health workers in Wuhan and Singapore. This event is responsible for the heterogeneity between the studies and differences between the entire society studied, including mechanisms used to identify anxiety.⁸ However, research shows that then nursing workers identified with anxiety, 44.2% are technicians in the care area, 55.8% work in critical sectors, 44.2% are public employees and 27.9% work in the health field for more than 10 years. The study also points out that the scope of professional practice and circumstances of the workplace can cause anxiety, evidencing the closed sectors and with highly complex demands, as well as the inconsistency or worsening of the patients' health condition.⁸ Those who heal from SARS, including healthcare professionals, may have psychiatric symptoms for a long time, such as depression, anxiety and post-traumatic stress disorder. The study shows that most healthcare workers are at high risk of developing post-traumatic stress disorder (PTSD) and signs and symptoms of post-traumatic stress disorder (PTSS) after the coronavirus outbreak. The degrees of exposure, occupational functions, years of work practice, marital status and previous psychological disorders were presented as risk factors related to PTSD and/or PTSS.²

Before COVID-19, PTSD rates described by nurses ranged from 8.5% to 20.8%. Comprising the recent pandemic with a high mental health burden, mild to severe signs and symptoms of PTSD are described in up to 71.5% of nursing staff. In this study, the research findings indicate that 73.3% of nurses had mild to severe symptoms of post-traumatic stress.⁷ Similarly, a check of health worker mental health over the course of the recent COVID-19 pandemic described that the percentage of anxiety in 22 surveys changed from 9% to 90% with an average of 24%; while in 19 surveys it changed from 5% to 51% with an average of 21% for depression. The literature on previous viral outbreaks is similar, being possible to observe in a meta-analysis of health professionals in the course of SARS where a prevalence of 46% of anxiety, 37% of depression and 41% of anguish was obtained.⁷ In this sense, a survey in China with ICU nurses showed a significant decrease from 46.9% to 38.7% in anxiety, from 52.8% to 46.4% in depression, and from 26% to 19.3% in PTSD over time. Heesakkers et al. observed that regardless of the period during which the professional worked during the pandemic, PTSD symptoms seemed to decrease over time, with the current moment probably explaining the differences in prevalence rates. In a second study, it was possible to notice higher prevalences of anxiety symptoms (50.0%) and depression (31.6%) in ICU nurses.¹² Thus, according to the DSM-V (Diagnostic and Statistical Manual of Mental Disorders 5th edition), an acute stress disorder can be present for up to one month after experiencing a traumatic event, which can potentially be classified as PTSD.¹² Following the context of the pandemic, it is noted that professionals who work in private services and work in places that do not have the structure to meet the demands of the pandemic, have symptoms of BS and rates of higher prevalence of symptoms of depression, insomnia and anxiety. Such adversities show a reduction when they present allied factors for mental health such as the practice of physical exercise, socializing with family and friends, and having a satisfactory family income.⁹ During the COVID-19 pandemic, in addition to affecting the development of mental illnesses, work activities and working conditions are potential sources of exposure to the virus, in addition there is a lack of training and even insufficient or unavailable protective equipment. Most professionals consider work overload and conflicts between personal values and work values as factors that generate pressure at work. One of the factors is that professionals assume too many responsibilities, a fact shown in the study in which the prevalence of BS increases with age.¹⁰ However, according to Horta et al., frontline professionals showed more frequent signs of fatigue and BS at different stages of

the pandemic. Providing emotional support, breaks at different scales and adaptations to daily activities and physical spaces were the results of this study that confirmed evidence of care that needs to be provided to the care team.¹¹ There is a clear imbalance between workload and human resources that has been evidenced with the care of COVID-19 patients. A study shows that the workload increased by 33%, as evidenced by the Nursing Activities Score (NAS) scale, with an average score of 84 points, exceeding the normal value of 63 points. This is due to the greater demands of complex activities of critical units for patients with COVID-19, which depend on mechanical ventilation, extracorporeal life support, prone position maneuvers with an intubated patient, dressing and undressing of PPE.¹³ In this way, the increase in emotional fatigue occurs due to the inability to meet the psychological, social and emotional needs of patients and their families. A fact demonstrated in the study in which frontline nurses are a group that may present more frequent and intense symptoms of anxiety, depression, insomnia and psychological stress.¹³ Workers are subject to certain disorders associated with stress and Burnout due to factors such as: work overload, low pay, physical risks, hostile conduct, high standard of lack of security, strikes, idleness, absenteeism, enormous worker turnover, high disease rates, lack of trust and lack of respect. In this way, health professionals are affected in their family, social and work relationships, where many have emotional fatigue, anxiety and irritability, mainly resulting in health problems.¹⁴ However, it is extremely important to consider these causes to program efficient actions to minimize the risk of psychic suffering. Family and social support, support from managers and colleagues, training and the positive mechanisms faced are exposed as reasons why health professionals obtain prevention against these disorders.²

CONCLUSION

Based on the results of this study, and supported by related literature, it is concluded that nursing professionals have experienced significant psychological distress related to the current COVID-19 pandemic. Nurses experienced anguish both in their work environment and in their personal lives, ultimately causing an emotional imbalance. There was a high incidence of symptoms of anxiety, stress and depression, where its main factors described in the literature include work overload, uncertainty about the disease generating fear, exposure to the virus, absenteeism, among others. To better understand the risk profile that leads to BS and other disorders, it is necessary to develop an occupational health plan for health professionals, which could help in understanding the professional's mental health knowledge. Nursing professionals must be willing and prepared to go in search of information about the pandemic, looking for ways of coping, especially specialized psychological support, all this due to the direct, continuous and integral involvement of the work of prevention, promotion, protection and treatment. of the population's health problems.

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