

Nursing stress during the COVID-19 pandemic*Estrés de enfermería durante la pandemia de COVID-19**Estresse da enfermagem durante a pandemia COVID-19***Aline Voltarelli^{1*}**

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This study aimed to analyze the impacts of stress on nursing professionals during the COVID-19 pandemic, highlighting the triggering factors, psychophysiological consequences, and coping strategies. A descriptive and qualitative methodology was employed, based on a bibliographic review of articles published in the BVS and SciELO databases between 2018 and 2022, using descriptors such as "Stress", "COVID-19", "Nurses", "Prevention", and "Mental Health". The results revealed that nursing professionals faced alarming levels of stress due to work overload, fear of contamination, shortage of PPE, and lack of psychological support, leading to anxiety, depression, and burnout. The discussion highlighted the need for institutional interventions, such as psychological support programs, better working conditions, and mental health policies, to mitigate these effects. It is concluded that nursing, which is exposed to extreme physical and emotional risks, requires continuous appreciation and support to preserve its well-being and the quality of care provided, especially in contexts of health crisis.

Descriptors: Stress; COVID-19; Nurses; Prevention; Mental Health.**How to cite this article:**Voltarelli A, Arruda AL, Azevedo BP, Sousa RP, Marquez DS, Vieira ECB, Sakman R, Muraoka SMO, França CE. Nursing stress during the COVID-19 pandemic. Glob Clin Res. 2024;4(1):e62. <https://doi.org/10.5935/2763-8847.20210062>

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Resumén

Este estudio tuvo como objetivo analizar el impacto del estrés en los profesionales de enfermería durante la pandemia de COVID-19, destacando los factores desencadenantes, las consecuencias psicofisiológicas y las estrategias de afrontamiento. Se empleó una metodología descriptiva y cualitativa, basada en una revisión bibliográfica en las bases de datos BVS y SciELO, con artículos publicados entre 2018 y 2022, utilizando descriptores como "Estrés", "COVID-19", "Enfermeras", "Prevención" y "Salud Mental". Los resultados revelaron que los profesionales de enfermería se enfrentaron a niveles alarmantes de estrés debido a la sobrecarga laboral, el miedo al contagio, la escasez de EPI y la falta de apoyo psicológico, lo que provocó ansiedad, depresión y agotamiento. La discusión destacó la necesidad de intervenciones institucionales, como programas de apoyo psicológico, mejores condiciones laborales y políticas de salud mental, para mitigar estos efectos. Se concluye que la enfermería, expuesta a riesgos físicos y emocionales extremos, requiere reconocimiento y apoyo continuos, con el objetivo de preservar su bienestar y la calidad de la atención prestada, especialmente en contextos de crisis sanitaria.

Descriptor: Estrés; COVID-19; Enfermeras; Prevención; Salud Mental.

Resumo

Este estudo teve como objetivo analisar os impactos do estresse nos profissionais de enfermagem durante a pandemia de COVID-19, destacando os fatores desencadeadores, as consequências psicofisiológicas e as estratégias de enfrentamento. Utilizou-se uma metodologia descritiva e qualitativa, baseada em revisão bibliográfica nas bases BVS e SciELO, com artigos publicados entre 2018 e 2022, empregando descritores como "Estresse", "COVID-19", "Enfermeiros", "Prevenção" e "Saúde Mental". Os resultados revelaram que os profissionais de enfermagem enfrentaram níveis alarmantes de estresse devido à sobrecarga laboral, medo de contaminação, escassez de EPIs e falta de suporte psicológico, levando a quadros de ansiedade, depressão e burnout. A discussão destacou a necessidade de intervenções institucionais, como programas de apoio psicológico, melhores condições de trabalho e políticas de saúde mental, para mitigar esses efeitos. Conclui-se que a enfermagem, exposta a riscos físicos e emocionais extremos, requer valorização e suporte contínuo, visando preservar seu bem-estar e a qualidade da assistência prestada, especialmente em contextos de crise sanitária.

Descritores: Estresse; COVID-19; Enfermeiros; Prevenção; Saúde Mental.

Introduction

Stress is a natural physiological response of the body to situations of risk, threat, or danger, triggering alert and defense mechanisms. This reaction can manifest itself through impulsive and aggressive reactions as well as withdrawal and vulnerability behaviors. Currently, one of the main triggers of stress on a global scale is the COVID-19 pandemic, which has significantly impacted the mental health of the population¹.

Studies on mental health in communities show that approximately 90% of psychiatric morbidity in these contexts is associated with nonspecific and somatic complaints related to non-psychotic disorders. Among these, depression and anxiety stand out as the most prevalent conditions².

Initially, COVID-19 was underestimated, being compared to a common flu with possible progression to pneumonia. However, its severity became evident due to the rapid clinical worsening of infected individuals, characterized by intense dyspnea, runny nose, myalgia, headache, anosmia, and loss of appetite. These clinical manifestations, associated with the high potential for transmission, generate fear and despair not only in patients but also in their families and caregivers, exacerbating collective stress levels.

In addition to the direct risks to public health, the COVID-19 pandemic has caused profound psychological

impacts, as observed in previous outbreaks. Humanity is facing a challenging period, marked by high levels of distress, especially among frontline professionals such as nurses. Human adaptability will be crucial to overcoming this crisis³.

Stress among nursing professionals has reached alarming levels. These workers face excessive demands, a lack of recognition from managers and government officials, and hostility from stressed patients, who often direct their frustrations at caregivers⁴.

Dealing with critical situations, such as those imposed by COVID-19, exposes nursing professionals to a depletion of their psychological resources, significantly increasing their stress levels. The lack of decent conditions for rest, the fear of infecting family members, exposure to patients' suffering, and the lack of adequate psychological support contribute to the mental fragility of these workers. In addition, the lack of institutional recognition and the overload of shifts further aggravate this scenario^{4,5}.

This continuous pressure has led many professionals to develop depressive and anxiety disorders and cardiovascular diseases, such as high blood pressure, increased risk of acute myocardial infarction, and stroke. In extreme cases, despair culminates in suicide. In this context, humanity is experiencing a time marked by sadness, anguish, and widespread stress, reinforcing the importance of resilience and emotional support strategies⁶.



Therefore, it is essential to disseminate clear information about prevention measures, social distancing, and awareness that COVID-19 does not discriminate against ethnicity or social class and can affect any individual. The general objective of this study is to understand the essential role of nurses in supporting the nursing team, providing psychological support, guidance in critical situations, and comprehensive care for patients and their families. In addition, it seeks to define the concepts of stress and COVID-19, highlight the importance of prevention, and address emotional care strategies for health professionals.

Methodology

This study is characterized as descriptive and qualitative research, with an approach focused on the analysis of stress among nursing professionals in the context of the COVID-19 pandemic. The central focus is on the factors that trigger stress in this category, including work overload, excessive demands, professional devaluation, and the impacts on mental health, such as the development of depressive conditions.

Data collection was performed through a bibliographic review in the databases of the Virtual Health Library (VHL) and Scientific Electronic Library Online (SciELO), selecting scientific articles published between 2018 and 2022, in Portuguese, Spanish, and English. Open-access studies and those indexed in recognized academic platforms were prioritized. The descriptors used in the search followed the controlled terms DeCS (Health Sciences Descriptors) and MeSH (Medical Subject Headings), such as: "Stress"; "COVID-19"; "Nurses"; "Prevention"; "Mental Health".

The inclusion criteria for articles were based on thematic relevance, considering the coherence between titles, abstracts, and content about the central objective of this research. Studies that did not directly address stress in nursing professionals during the pandemic or that presented significant methodological limitations were excluded. Data analysis followed a qualitative approach, allowing critical discussion on the challenges faced by nursing and strategies for coping with stress in this context.

Results and Discussion

Environmental situations can be classified as potential stress triggers and categorized into three main groups: (1) life events, (2) minor daily events, and (3) chronic stress situations. Life events, initially studied by Holmes and Rahe (1967), have been one of the main focuses of research in psychiatric epidemiology in recent decades. In the literature, these events are referred to as life events, life events, stressful events, or negative life events. For this study, the terminology stressful life events was adopted, due to its greater conceptual adequacy to the topic under discussion⁷.

The specialized literature establishes a fundamental distinction between dependent and independent stressful life events. Dependent events are characterized by the active participation of the individual in their genesis and are directly related to their behavioral patterns and the way they establish their interpersonal

relationships. In these cases, the individual's actions can contribute to the creation of adverse situations. In contrast, independent events are beyond individual control and are inherent to the natural course of life, as exemplified by the death of a loved one or the emancipation of children as a stage of family development⁸.

A distinction must be made between traumatic events and stressful life events. The former represents experiences of such magnitude that they can leave persistent psychological consequences, remaining present for decades even after the exposure to the causal event has ceased. Particularly, severe traumas involve threats to the physical integrity of the individual or third parties. In contrast, stressful events, although capable of triggering psychopathological manifestations and behavioral maladjustments, tend to present progressive symptomatic remission after the elimination of the stressor factor⁹.

The spectrum of environmental stressors extends beyond life events, also encompassing so-called minor daily occurrences. These seemingly trivial occurrences - such as lost objects, prolonged waiting, or exposure to environmental noise - can, when persistent, trigger stress responses with more significant psychophysiological repercussions than occasional stressful events. The recurrence of these daily micro stressors assumes clinical relevance and can constitute a substantial source of psychological distress for certain individuals^{8,9}.

Complementing this taxonomy, situations of chronic tension are characterized as prolonged sources of stress, characterized by their temporal persistence and moderate to severe intensity. Conflictual marital relationships, marked by continued physical or verbal aggression, exemplify this phenomenon, which is often associated with the development of significant psychopathological manifestations. It is worth noting that the individual response to stress is mediated by complex cognitive processes, in which the subjective evaluation of the stimulus, as threatening, neutral, or desirable, plays a determining role in shaping subsequent emotional and behavioral reactions. This evaluative mechanism, therefore, constitutes a fundamental element in modulating the psychosocial impacts resulting from exposure to stressful situations⁸⁻¹⁰.

In the cognitive sphere, it is possible to identify four fundamental components in the processing of stressful situations. The first concerns the initial automatic assessment of the stimulus, also called primary affective reaction, in which the individual makes an immediate analysis of the threatening potential of the situation. This global affective assessment determines the activation of different response patterns, with the perception of threat triggering defensive mechanisms, while the absence of this perception favors orientation and investigation responses, preparing the individual to gather additional information. These different response modalities are associated with distinct physiological patterns^{8,9}.

The second component involves the primary assessment of demand, a process in which the individual interprets the stressful situation not based on its intrinsic



characteristics, but rather on his or her repertoire of previous experiences and learning. This phase is essential for understanding the subjective experience of stress. The third component corresponds to the secondary assessment, in which the individual measures his or her capabilities and available resources to face the challenging situation. Finally, the fourth component refers to the organization of action, at which point, based on previous assessments, the individual selects and implements response strategies^{3,8}.

Behavioral responses can present different degrees of specificity concerning the stressor, ranging from targeted actions to more generic reactions. In situations where there are no readily available responses, the individual faces the dilemma of whether to try new strategies or adopt a passive stance. This decision directly influences the mobilization of physiological and behavioral resources. The fundamental responses to stressors include three basic patterns: coping (attack), avoidance (flight), and passivity (collapse). The effectiveness of these responses is conditioned by the individual's learning history, particularly the reinforcement obtained in previous similar situations. The selected coping response determines not only the degree of activation of the organism but also the physiological systems mobilized and the potential associated psychophysiological disorders. Specific response patterns show correlations with distinct psychopathological disorders: avoidance responses may predict the development of agoraphobia or social phobia, while persistent type A coping patterns are associated with a higher risk of cardiovascular disorders^{3,7,9}.

From an evolutionary perspective, anxiety, fear, and stress responses have their origins in the defense mechanisms of animals in the face of environmental threats. When faced with situations that compromise their well-being, physical integrity, or survival, the organism mobilizes an integrated set of behavioral and neurovegetative responses that characterize the fear reaction. This phylogenetic pattern remains fundamental to understanding human responses to stress, particularly in contexts of high psychophysiological demand⁷.

In nursing, professional practice requires not only technical and scientific competence but also significant emotional control, given the constant exposure to risk situations, physical and emotional vulnerability, and the responsibility inherent in caring for human lives. This particularly stressful work environment can precipitate psychological deterioration, manifesting itself through high levels of stress, emotional exhaustion, anxiety, and depression. Such comorbidities, when present, substantially compromise professional satisfaction and may result in harm to the quality of care and patient safety³⁻⁵.

The pandemic context resulting from SARS-CoV-2 has significantly accentuated these vulnerabilities among frontline nursing professionals. Prolonged exposure to critical situations, associated with role ambiguity and institutional conflicts, has considerably increased stress levels in this professional category⁵.

The main stressors identified included the constant fear of personal contamination and viral transmission to family members, aggravated by direct contact with patients

in severe clinical deterioration or terminal illness. These experiences, particularly traumatic, required intensified emotional support and continuous psychological monitoring, creating a vicious cycle of progressively increasing stress and the need for specialized interventions^{11,12}.

It was observed that the rates of professional burnout and pandemic stress reached considerably higher levels among professionals with longer direct exposure and longer working hours. The convergence of factors such as work overload, sleep deprivation, constant fear, and uncertainty about the future created a scenario particularly conducive to the development of mental disorders among health workers, especially nursing professionals. The rapid increase in severe cases of COVID-19, associated with the chronic lack of material resources (beds, mechanical ventilators) and human resources, precipitated a systemic collapse that further exacerbated these adverse conditions. This reality highlighted the urgency of institutional policies aimed at protecting the mental health of health professionals in contexts of health crises^{1,5}.

The pandemic caused by SARS-CoV-2 has emerged as the greatest public health emergency in recent decades, affecting the global community in multiple dimensions. In addition to the immediate risks to physical health, the significant psychological impact has been highlighted, both on healthcare professionals involved in direct response and on the general population. Similar to previous pandemics, a pattern of mental suffering was observed, characterized by fear of infection, concern about intra-household transmission, prolonged stress, a feeling of professional devaluation, and anticipatory anxiety regarding the consequences and duration of the health crisis^{6,11}.

The work routine of health professionals, whether in primary care or highly complex services, has triggered a convergence of adverse feelings, including anguish, anxiety, emotional fatigue, fear, and insecurity. These factors have contributed to increased interpersonal conflicts, professional dissatisfaction, and occupational stress. As evidenced in this study, this scenario represented a multidimensional challenge, since previously established protocols and personal protective equipment (PPE) proved to be insufficient in the face of the magnitude of the pandemic. This limitation was highlighted in eight of the twelve articles analyzed, demonstrating that, although the protective measures were adapted to manage biological risks, they remained ineffective in neutralizing the psychological impacts experienced daily by professionals^{7,12}.

The environment of Intensive Care Units (ICUs), already known to be stressful, became even more stressful during and after the pandemic, catalyzing the transition from acute stress to chronic conditions among nurses. This progression manifested itself through persistent anxiety, depression, and burnout, significantly worsening the psychological state of these workers. The high prevalence of mental distress, perceived stress, and burnout among professionals on the front lines of COVID-19 reinforces the urgent need for structured interventions. The psychosocial experiences of these professionals must be valued, and the



implementation of individual and group psychological support is essential to preserve their well-being. Furthermore, the fear associated with daily exposure in services intensified the adoption of preventive measures, such as frequent hand hygiene, highlighting how the pandemic context redefined not only care practices but also self-care and mental protection strategies.

Work overload, associated with a lack of social support and insufficient human resources in the workplace, has contributed significantly to the increase in stress levels perceived by health professionals. Managers and health systems must adopt measures to mitigate the exhaustion of these workers, ensuring not only the availability of material resources necessary for safe care practice but also continuous access to psychological and informational support. The implementation of structured psychological monitoring programs is essential both to reduce the immediate impacts of occupational stress and to prepare these professionals for possible future health crises^{13,14}.

Healthcare institutions play a crucial role in promoting appropriate work environments by adopting organizational policies that include balanced shifts, regular breaks, and appropriate physical spaces for rest, adapted to the specific needs of each service. Another critical factor identified was the constant concern about the inadequacy or shortage of Personal Protective Equipment (PPE), which, in addition to generating insecurity, led to significant physical discomfort, including skin lesions, prolonged water and food restrictions, and sensory alterations. Such conditions highlight the need for responsible agencies to ensure not only an adequate supply of supplies but also specialized

psychological support for exposed professionals during public health emergencies^{8,12,14}.

The results of this study highlight the urgent need for comprehensive care for healthcare professionals who, while dedicating themselves to caring for lives in high-risk contexts, faced unprecedented challenges during the pandemic. The lack of structured psychological support, combined with exposure to an unknown and highly contagious virus, precipitated the emergence of severe stress, depression, anxiety, and burnout syndrome among these workers. In extreme cases, these conditions led to tragic outcomes, such as suicide, reflecting the exacerbated physical, emotional, and psychological pressure. Additionally, reports indicate that limited access to PPE was aggravated by inadequate institutional practices, including censorship of professionals' expressions of fear or insecurity, perpetuating a hostile and unsupportive work environment⁹.

Conclusion

It is concluded that nursing professionals are those who face stress and deserve to be valued, mainly out of respect, for dedicating their lives, their moments of suffering, weakness and, even so, acting in the emotional support of patients affected by COVID-19 with humanization. In nursing, demands, standards and protocols are innovated, undergoing extraordinary changes, and, as a result, the entire nursing team becomes exhausted, not only with the service itself, but with the pandemic and its effects, causing nursing team workers to suffer depression, hopelessness, abandon the profession, attempts at self-extermination, etc.

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