



## An Examination of Burnout Syndrome Among Nurses During the Pandemic: A Comprehensive Review

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### Abstract

**Background:** Particularly nurses in critical care units (ICUs), the COVID-19 epidemic has profoundly affected medical workers. Burnout Syndrome (BOS), marked by emotional tiredness, depersonalization, and less personal achievement, has an alarming frequency resulting from extended high-stress conditions. Developing successful treatments depends on an awareness of the occurrence and contributing causes of BOS among ICU nurses.

**Methods:** This scoping study methodically reviewed the body of current research on BOS among COVID-19 pandemic ICU nurses. With an eye on papers published between 2019 and 2023, a thorough search was undertaken across many databases, including Scopus, PubMed, and Web of Science. The study sought to pinpoint specific, environmental, organizational, and personal elements related with BOS.

**Results:** The study found that a good number of ICU nurses claimed experiencing BOS symptoms during the epidemic. Studies found that BOS developed in response to things such rising workloads, poor PPE, and emotional toll from patient care. Especially, in certain cohorts, around 68% of ICU nurses showed symptoms of emotional tiredness; others reported great degrees of trauma-related stress.

**Conclusion:** The results highlight how urgently the mental health issues ICU nurses confront within current public health crises must be addressed. Reducing the risk of BOS mostly depends on implementing organized support networks, improving resources, and advancing a culture of well-being. This study not only emphasizes the important condition of ICU nurses' well-being throughout the epidemic but also provides the foundation for next treatments meant to maintain the mental health of healthcare workers under demanding conditions.

**Keywords:** Burnout syndrome; ICU nurses; COVID-19; mental health; healthcare professionals.

## Introduction

The COVID-19 (SARS-CoV-2) outbreak has escalated the responsibilities of healthcare professionals, resulting in heightened mental, physical, and technological demands on staff. Since the onset of the pandemic, researchers have documented health professionals' symptoms of psychological illnesses, including heightened anxiety, irritability, sleep disturbances, muscular tension, nightmares, mental breakdowns, and other adverse psychophysical conditions [1-5]. Moreover, the persistent exposure of healthcare personnel to crises constitutes a kind of chronic occupational stress, resulting in emotional, physical, as well as mental exhaustion, specifically known as Burn-Out Sickness (BOS) [6,7].

BOS refers to workplace stress characterized by workers' emotional weariness, depersonalization, and diminished personal achievement [8]. Emotional tiredness is characterized by employees experiencing weariness and an inability to meet workplace responsibilities or interact with others. Depersonalization is characterized by unfavorable or improper attitudes towards individuals, impatience, lack of idealism, and social retreat. A diminished sense of personal success is seen as a decline in production or capability, lower motivation, as well as a failure to manage effectively [9]. Research on nurses indicates that Burnout Syndrome (BOS) is associated with dissatisfaction, stress, suicidal thoughts, diminished caregiver quality, reduced client happiness, as well as an elevated risk of hospital-related infections [9-13].

Researchers from other fields have lately intensified their focus on Burnout Syndrome (BOS) within nurses in the setting of the global epidemic [14-16]. Nevertheless, research specifically addressing BOS among ICU nurses is limited. Thus far, many literature evaluations have examined the frequency of BOS among medical professionals in various positions during the COVID-19 pandemic, excluding a focus on ICU nurses [17-20]. Additional studies have concentrated on nurses operating in several wards, or on comparisons among healthcare professionals with distinct functions within single-type wards [21,22]. However, the inquiry about the frequency of BOS amongst ICU nurses throughout the COVID-19 outbreak remains unresolved, since no prior studies have addressed this issue. Significantly, no research has specifically investigated the variables related to BOS amongst nurses in intensive care units throughout the epidemic. Nonetheless, among healthcare professionals, ICU nurses faced the most significant escalation in stress throughout the pandemic [23]. Given the potential for future surges, such as those related to COVID-19, and the persistent high weakness of ICU patients, it is crucial to identify the emotional hazards associated with this occupation.

Since the onset of the epidemic, intensive care units have seen unforeseen changes. Alterations in shifts, heightened demand for end-of-life administration, higher adoption of full-body personal protection gear (PPE), device-mediated interaction with the relatives of patients, and insufficient additional workers to assist nursing functions constitute some of the most frequently reported repercussions of the pandemic's emergence [24-28]. ICU nurses have continuous contact with patients who are COVID-19-positive, which has inherent hazards associated with this infectious illness [24]. Nevertheless, preliminary studies on the correlations between these changes as well as BOS are limited [6,7]. The understanding of the people, managerial, and environmental variables influencing the incidence of Burnout Syndrome (BOS) is insufficient, and inquiries about BOS incidence amongst ICU nurses throughout the COVID-19 outbreak remain unresolved. Considering the pivotal role of ICU nurses throughout the global epidemic, there is an urgent need to have a deeper understanding of this phenomenon.

This paper intends to elucidate the results of a scoping assessment of the scientific research about Burnout Syndrome (BOS) amongst nursing staff in intensive care units throughout the COVID-19 epidemic. The primary aim was to collect cutting-edge data regarding the incidence of individual, managerial, and cultural factors linked to Burnout Syndrome (BOS) among ICU nurses throughout the pandemic. The incidence of Burnout Syndrome (BOS) amongst nurses working in intensive care units is a well-documented subject in the literature, given that ICU nurses operate in environments where individuals are in critical circumstances and need comprehensive care [29]. In light of the COVID-19 epidemic, it is essential to examine the probability of BOS as well as the human, managerial, and environmental aspects related to it to inform current and future professional practices. The justification for a comprehensive synthesis of the existing

empirical data is rooted in the recognition of the sustained strain and stress experienced by ICU facilities during COVID-19 [30]. The primary aim of this study is to examine research results and the practical consequences to assist both academics and professionals in enhancing the health and standard of life of nurses working in critical care settings.

## **Methods**

We conducted a systematic search across three databases: Scopus, PubMed, as well as Web of Science (WoS). We chose various bibliographical libraries to guarantee comprehensive interdisciplinary representation of high-quality peer-reviewed literature [31]. We constrained the search timeframe from 2019 until the search date in 2023.

### **BOS incidence amongst COVID-19 ICU nurses**

Concerning the incidence of Burnout Syndrome (BOS) amongst ICU nurses throughout the COVID-19 a global epidemic, seven reviews [32-39] demonstrated the existence of BOS indicators in the participating ICU nurses, therefore addressing the first hypothesis of this literature review. In Belgium, 68 percent of the 1100 attending ICU nurses had signs of Burnout Syndrome (BOS). Thirty-eight percent had emotional fatigue levels beyond the acceptable limit, 29 percent were at danger for developing detachment signs, and 31% shown diminished individual achievement. In a Canadian cohort of 425 nurses working in intensive care units, Crowe et al. [33] identified moderate-to-high levels of fatigue in all participants, with 87% exhibiting indicators of additional traumatic stress disorder and 22% expressing intentions to resign from their present positions. Kagan et al. [35] discovered that, within a convenience sample of 100 registered nurses employed in the ICU, the nurses exhibited a high degree of fatigue. Notably, 66% of the nurses indicated varying degrees of engagement in the in-depth care of COVID-19 patients, which significantly influenced the variance in professional functioning among those caring for this patient population. Kurt Alkan et al. [36] examined a Turkish sample of 116 critical care nurses and discovered a mean burnout score of 50.75 out of 70, along with a strong positive link between burnout levels and dread of COVID-19. Ndlovu et al. [37] demonstrated that most of the 225 South African nurses engaged in intensive care units throughout the first phase of COVID-19 encountered moderate to high levels of burnout: 26.6% exhibited low burnout, 46.1% displayed moderate burnout (scores between 43 and 56), and 27.3% reported high burnout. In a study of 140 nurses employed in Iranian ICUs, Omid et al. [38] discovered that 45% exhibited moderate-to-high emotional tiredness, 43.6% shown moderate-to-high detachment, and 5% indicated poor personal achievement. This research also revealed a negative correlation between emotional weariness, detachment of burnout, and the standard of life. An Italian sample [39] consisting of 291 individuals had results higher than the acceptable level for each of the three aspects of BOS. Notably, almost fifty percent of the research participants were not employed in the ICU prior to the pandemic's onset.

Although there is diversity in the degrees of the three aspects of Burnout Syndrome (BOS), the examined studies substantiate the assertion that ICU nurses faced a significant risk of developing BOS during the COVID-19 pandemic.

### **Factors Pertaining to Burnout amongst ICU Nurses throughout the COVID-19 Pandemic**

The chosen quantitative studies elucidated the individual and organizational aspects contributing to the frequency of BOS amongst ICU nurses throughout the COVID-19 pandemic. At the person stage, variables including gender were associated with BOS. Vitale et al. [37] discovered that female nurses in intensive care units exhibited more emotional tiredness compared to their male counterparts. Bergman et al. [40] discovered that the decision by medical organizations to assign non-specialized nurses to intensive care units, coupled with excessive workloads, led participants to feel they were frequently unable to deliver sufficient nursing care. This led to moral anxiety, which is associated with burnout. Furthermore, Bruyneel et al. [32] discovered variables associated with elevated BOS risks, including an increased patient load relative to the pre-COVID-19 pandemic period, excessive workload, insufficient PPE, and an absence of examinations to determine prior infection with the virus. Ndlovu et al. [37] emphasized that the increased

workload, maybe linked to the COVID-19 epidemic, adversely affected nurses' occupational and personal life, likely stemming from burnout.

The determination of individual, institutional, and environmental variables linked to the probability of acquiring BOS was further thoroughly examined in the descriptive as well as multidisciplinary research included in this review [33-35, 41-43]. Cadge et al. [43] as well as Crowe et al. [33] highlighted the significance of collegial ties and leadership support as essential organizational elements that promote individual and collective well-being while mitigating the dangers of burnout syndrome (BOS). The authors highlight the novel work issues introduced by COVID-19, such as the need to reorganize workgroups (sometimes including the reassignment of personnel from other departments), reevaluate current responsibilities, and accommodate increased uncertainty and ambiguity in working circumstances. These initiatives need assistance from colleagues but demanded even more substantial efforts from nursing leadership in disseminating information, sustaining morale, and restructuring work processes to safeguard the workers' well-being. Likewise, Guttormson et al. [34] indicated that, in addition to heightened workload, the emotional toll of managing

ICU patients throughout the pandemic was a significant organizational element leading to BOS. Observing patients succumb to illness in isolation from relatives and friends, experiencing a sense of helplessness amid the pandemic, and contemplating the reality that these individuals passed away while retaining mental clarity—daily exposure to such circumstances was identified as significantly associated with Burnout Syndrome, particularly regarding emotional fatigue and diminished personal achievement. Furthermore, Çelik and Kiliç [42] indicated that nurses experienced familial connection deterioration and inadequacy in intrafamilial coping, leading to a burdensome existence characterized by significant responsibilities and mental health issues, including burnout syndrome. Furthermore, despite the significant challenges faced by ICUs in the last two years owing to COVID-19, the findings [34,43] indicate that the frequent contact of ICU nurses to environmental, sociocultural, and institutional variables may exacerbate the risk of Burnout Syndrome (BOS). This pertains to the dismissal of COVID-19 and the failure to acknowledge healthcare professionals by some societal factions. In this environment, some individuals' skepticism towards ICU nurses, the neglect of their psychological well-being by healthcare organizations, and the apprehension of transmitting infections to family and friends constituted detrimental contextual factors that exacerbated the mental health strain on ICU nurses throughout the COVID-19 pandemic.

Christianson et al. [43] conducted a one-on-one interview study with nurses regarding their lived experiences during the pandemic, revealing that nurses experienced feelings of betrayal due to perceived violations of their duty-of-care arrangement by managers, the broad society, and national medical care administrators. They encountered modifications to prior standards of care, including a substantial increase in workload, deteriorating understaffing, and amendments to patient-care expectations, which were instituted for reasons unrelated to the enhancement of patient care. Nurses expressed a moral commitment to provide care, however encountered disempowerment and exhaustion, impacting their well-being both inside and beyond the workplace. Crowe et al. [33] referenced similar themes, including disappointment, defeat, and the desire to go.

Despite COVID-19 being a significant and detrimental problem globally, Guttormson et al. [34] as well as Kagan et al. [35] also indicate several beneficial characteristics noted by ICU nurses that might mitigate the likelihood of developing BOS. ICU nurses identified new professional difficulties, the recovery of particular individuals, the gratitude shown by patients, their families, and the community, as well as the acknowledgment of ICU nurses as more prominent individuals.

This scoping study aimed to achieve two objectives in response to a demand for a comprehensive knowledge of ICU nurses' work experiences during the COVID-19 epidemic [43-45]. The primary objective was to collect data about the incidence of fatigue syndrome amongst nurses in critical care facilities throughout the COVID-19 outbreak. The objective was to determine the individual, organizational, and environmental aspects related to the possibility of and prevention of Burnout Syndrome (BOS) amongst ICU nurses throughout the COVID-19 epidemic, in order to understand and inform current and future

practices. The investigation reveals the intricacies involved in examining the burnout syndrome of ICU nurses. Nonetheless, preliminary assessments may be made to inform future theory development, research investigations, and intervention implementation.

The quantitative investigations, which included direct assessments of Burnout Syndrome (BOS), did not provide numerical numbers that might generalize the incidence of BOS among ICU nurses throughout the COVID-19 pandemic. This somewhat restricts the ability to address the initial purpose of this research about the incidence of BOS symptoms among ICU nurses throughout the pandemic. Furthermore, it hinders the potential for conducting assessments using pre-pandemic data, should comparisons across eras be considered essential. The occurrence of BOS signs has been shown to be prevalent, affecting almost fifty percent of the ICU nurses included in the trials; this statistic underscores the importance of the phenomena within the examined timeframe and demographic.

The examined research elucidated the distinct features contributing to BOS concerns amongst ICU nurses throughout the COVID-19 pandemic. We identified that limited experience in the ICU, excessive workload, lack of resources (such as safety devices and personal protective equipment), insufficient psychological support (including inadequate assistance from colleagues or hospital systems), and social stigma are contributing factors to the onset of Burnout Syndrome (BOS) in ICU nurses. Moreover, our analysis indicates the existence of potential protective variables against BOS. This include seeing patients' remarkable recoveries, receiving support from colleagues, empathetic nursing leadership, using personal protective equipment, the gratitude of those being treated and their relatives, and the growing acknowledgment of ICU nurses as a significant professional group.

Despite the complexity of the COVID-19 pandemic, which exhibits temporal and spatial variability, we assert that understanding risk factors as well as protective variables constitutes a valuable asset. This knowledge can be utilized not only to manage the ongoing COVID-19 pandemic but also to prepare for future scenarios that may elevate the demand for intensive care unit services. Furthermore, we regard the prevalence of BOS not merely as a symptom associated with moral distress and COVID-19-induced fatigue, but as a broader condition linked to uncertainty and sustained exposure to ongoing changes and work demands faced by ICU nurses, in which COVID-19 is a contributing factor but not the sole element.

The existence of several extrinsic variables associated with burnout symptoms supports this hypothesis. Organizational and environmental elements were identified as significant contributors to the development of BOS. The working circumstances pertained to the escalation of job responsibilities and the workplace atmosphere, with significant influence from collaboration and leadership, directly impacting the morale of ICU nurses. Furthermore, the cumulative experience of ICU nurses may lead to adverse conditions, such as Burnout Syndrome (BOS), when social and environmental variables foster feelings of isolation and dissatisfaction, such as the absence of societal acknowledgment of healthcare workers' contributions. These results reinforce the perspective that Burnout Syndrome (BOS) arises from a mostly adverse and demanding condition linked to the importance of ICU nurses' roles [34]. We hope that, despite the diminishing prominence of COVID-19, national health structures will maintain their focus on ICU nurses and provide sufficient resources to address the problems that COVID-19 has frequently exacerbated but rarely originated, thereby garnering the interest and dedication of health managers and, particularly in public systems, policymakers.

### **Constraints**

Our study has various limitations that provide insights for future research to tackle the BOS problem amongst ICU nurses throughout the COVID-19 pandemic. The study's specific design enabled an examination of the phenomenon within the targeted occupational population; however, it is important to recognize that the selected criteria precluded the inclusion of additional research that, while exploring analogous contexts, did not satisfy the stringent conditions established for this study. The research offers a solid foundation for examining the BOS occurrence amongst ICU personnel dealing with COVID-19 as well as meeting the demands that arose from their experiences as highlighted in the literature review.

The study's findings and its constraints may inform the development of more "inclusive" research by enhancing search criteria, article selection, and the incorporation of diverse pandemic waves within the examined scientific contributions. While the COVID-19 epidemic persists, its impact on the delivery of healthcare in critical care units may vary from previous experiences. One area of research is examining those procedures and factors, considering the various durations of the epidemic. The prevalence of BOS in critical care units has possibly evolved, and the effective preventive measures outlined in the literature need substantial study and dissemination efforts.

Consequently, further examination of the existing scholarship could involve research including analogous healthcare professionals, like as emergency department nurses, who similarly had heightened workloads and life-threatening patients throughout the global epidemic. Similarly, it has been noted that several ICU nurses functioning in these units during the pandemic were not initially assigned to them but were accustomed to employment in other areas in the hospital. Investigating the possible disparities between expert and beginner ICU nurses using both qualitative and quantitative approaches would be intriguing. Although ICU and urgent care nurses may exhibit commonalities, such parallels may not exist with nursing from elderly or orthopedic units.

### **Practical Consequences**

Although this research does not provide conclusive insights into BOS in ICU nurses throughout the COVID-19 epidemic, it offers preliminary implications for practice. Considering the findings about the adverse impacts of BOS on both individuals and institutions, it is prudent to explore measures and instruction at the personal stage to mitigate the possibility of BOS. From a multidisciplinary standpoint, healthcare experts, including psychologists using profession-specific therapies, would assist ICU nurses in effectively managing work-related stress.

Considering the common inability to assign specialized personnel for the well-being of ICU nurses on the unit, we also see peer-defusing education as a useful alternative to facilitate group discourse and the articulation of ICU nurses' experiences [46]. Defusing involves groups of skilled nurses focusing on their professional experiences and circumstances post-shift to mitigate emotional tiredness and its buildup during the workweek. This device may be beneficial due to the difficulty in delivering expert psychological assistance, particularly in settings where there is a persistent scarcity of specialized personnel dedicated to the mental health of nursing employees, or due to financial constraints.

The analyzed studies emphasize the need for measures to avert BOS in intensive care unit nurses, achievable via the provision of additional support services or the removal of reported job constraints. The enhancement of work equipment, the decrease in workload per shift, and improved communication are identified as key intervention strategies, aimed not only at alleviating the adverse effects of burnout but also at fostering a sense of personal achievement among workers, who, with superior tools, can cultivate a heightened sense of efficacy in their roles.

### **Conclusions**

The findings of this scoping research indicate that Burnout Syndrome (BOS) is a significant issue among ICU nurses during the COVID-19 epidemic, while considerable variations exist based on geographical and temporal settings. This study identifies probable variables that influence the growth or reduction of BOS prevalence amongst ICU nurses. These serve as effective foundations for devising treatments aimed at mitigating BOS among ICU personnel. This research is one of the initial summaries of the research on BOS specifically amongst ICU nurses throughout the COVID-19 epidemic. We anticipate that the findings from this research will serve as a foundation for the creation of therapies to mitigate BOS among ICU nurses, recognizing that this problem extends beyond the COVID-19 epidemic. We want to have offered considerations relevant not just for the current moment but additionally for the period following the pandemic, applicable under normal circumstances and particularly pertinent should future events necessitate a higher requirement for ICU care globally.

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### فحص متلازمة الاحتراق الوظيفي بين الممرضين خلال الجائحة: مراجعة شاملة

#### الملخص

تعتبر (ICUs) بشكل عميق على العاملين في المجال الطبي، وخاصة الممرضين في وحدات العناية المركزة COVID-19 أثرت جائحة: الخلفية ، التي تتميز بالإرهاق العاطفي، والتبلد الوجداني، وانخفاض الشعور بالإنجاز الشخصي، ذات انتشار مقلق (BOS) متلازمة الاحتراق الوظيفي والعوامل المساهمة فيها بين ممرضي العناية المركزة أمرًا ضروريًا لتطوير BOS بسبب الظروف المستمرة عالية التوتر. يُعد فهم مدى انتشار تدخلات فعالة.

اعتمدت هذه الدراسة على مراجعة استكشافية منهجية للأبحاث الحالية حول متلازمة الاحتراق الوظيفي بين ممرضي العناية المركزة: المنهجية ، مع التركيز Web of Science وPubMed وScopus تم إجراء بحث شامل في قواعد بيانات متعددة، بما في ذلك COVID-19 خلال جائحة BOS. على الدراسات المنشورة بين 2019 و2023. هدفت الدراسة إلى تحديد العوامل البيئية والتنظيمية والشخصية المرتبطة بـ

كشفت الدراسة أن نسبة كبيرة من ممرضي العناية المركزة أبلغوا عن أعراض متلازمة الاحتراق الوظيفي خلال الجائحة. وأظهرت الأبحاث: النتائج ، والضغط العاطفي الناتج عن رعاية المرضى. على (PPE) نشأت نتيجة عوامل مثل زيادة أعباء العمل، ونقص معدات الحماية الشخصية BOS أن وجه الخصوص، أظهرت بعض الدراسات أن حوالي 68% من ممرضي العناية المركزة عانوا من الإرهاق العاطفي، بينما أبلغ آخرون عن مستويات مرتفعة من الإجهاد المرتبط بالصدمات النفسية.

تسلط النتائج الضوء على الحاجة الملحة لمعالجة قضايا الصحة النفسية التي يواجهها ممرضو العناية المركزة خلال الأزمات الصحية: الخلاصة العامة. تلعب شبكات الدعم المنظمة، وتحسين الموارد، وتعزيز ثقافة الرفاهية دورًا حاسمًا في تقليل مخاطر الاحتراق الوظيفي. لا تبرز هذه الدراسة فقط أهمية الحفاظ على صحة ممرضي العناية المركزة النفسية أثناء الجائحة، ولكنها توفر أيضًا أساسًا لتطوير تدخلات مستقبلية تهدف إلى دعم الصحة النفسية للعاملين في الرعاية الصحية في ظل الظروف المجهدة.

؛ الصحة النفسية؛ العاملون في الرعاية الصحية COVID-19 متلازمة الاحتراق الوظيفي؛ ممرضو العناية المركزة؛: الكلمات المفتاحية