

Research

A Scoping Literature Review of the Impact of COVID-19 on Burnout Syndrome Among Critical Care Nurses

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ABSTRACT

Background: This scoping literature review examines burnout among critical care nurses, specifically focusing on the impact of the COVID-19 pandemic, a pervasive concern in healthcare professions.

Aim: The primary objective of this study is to assess the prevalence of burnout syndrome among critical care nurses, with a specific focus on the pandemic's influence. The ultimate goal is to facilitate evidence-based interventions that can effectively alleviate burnout and safeguard the well-being of critical care nurses.

Methods: We conducted a scoping review of the literature spanning from 2018 to 2023, utilizing PubMed and Hrčak databases and targeting original research papers, systematic reviews, and review articles. Employing a structured guideline, we outlined objectives, defined the study scope, and established inclusion/exclusion criteria. For data extraction, a protocol systematically captured key details, including study design and participant characteristics. The Maslach Burnout Inventory Scale, along with other measurement tools, guided burnout categorization. Our data synthesis followed a methodical approach outlined in the guideline, ensuring transparency and reliability, ultimately enhancing the overall robustness of our review.

Results: This literature review comprehensively reviewed 15 articles. The findings are that burnout rates have risen in healthcare professionals, including nurses, with pandemic-related challenges amplifying the risk among critical care nurses. Contributing factors include demographic variables, job-related stressors, and insufficient workplace support.

Conclusion: The findings distinctly highlight the exacerbating impact of the COVID-19 pandemic on burnout, introducing unique stressors that contribute to heightened levels among healthcare professionals. Demographic variables, job-related stressors, and insufficient workplace support emerge as consistent contributors to burnout, necessitating tailored interventions. The studies express the need for urgent, targeted interventions to safeguard the well-being of critical care nurses and maintain the quality of patient care in both routine healthcare and crisis settings.

Keywords: Critical care, nursing, burnout syndrome, COVID-19, scoping review

INTRODUCTION

In recent decades, burnout syndrome has garnered substantial attention in various professional spheres, particularly in healthcare. Burnout is characterized by mental and emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. Nurses, as the backbone of the health care industry, are at the forefront of addressing burnout-related challenges. Nurses working in intensive care units (ICUs) are particularly susceptible to these challenges due to their unique job demands. The ICU environment is characterized by a high workload, emotional stress, staff shortages, technical complexity, extended working hours, night shifts, and ethical dilemmas. All of which contribute to the development of burnout syndrome among ICU nurses.

The emergence of the COVID-19 pandemic in recent years placed unprecedented pressure on healthcare systems worldwide. Intensive Care Units, critical in managing severe cases of the virus, were thrust into the spotlight. With this spotlight came a set of new challenges such as further strained resources, overwhelming increases in workload, and a heavy emotional toll. The emotional toll of witnessing patient suffering and loss on a previously unprecedented scale added to the preexisting burdens that nurses in these units already faced. The impact of these challenges on nurse burnout is not only a matter of individual concern but also a critical issue for the broader health care landscape.

To address this complex issue, it is imperative to gain a deeper understanding of how the unique challenges faced by ICU nurses, especially in the context of a global health crisis like the COVID-19 pandemic, contribute to burnout. Such understanding is pivotal in the development of strategies and interventions aimed at alleviating the effects of burnout on both individuals and the healthcare system as a whole.

AIM

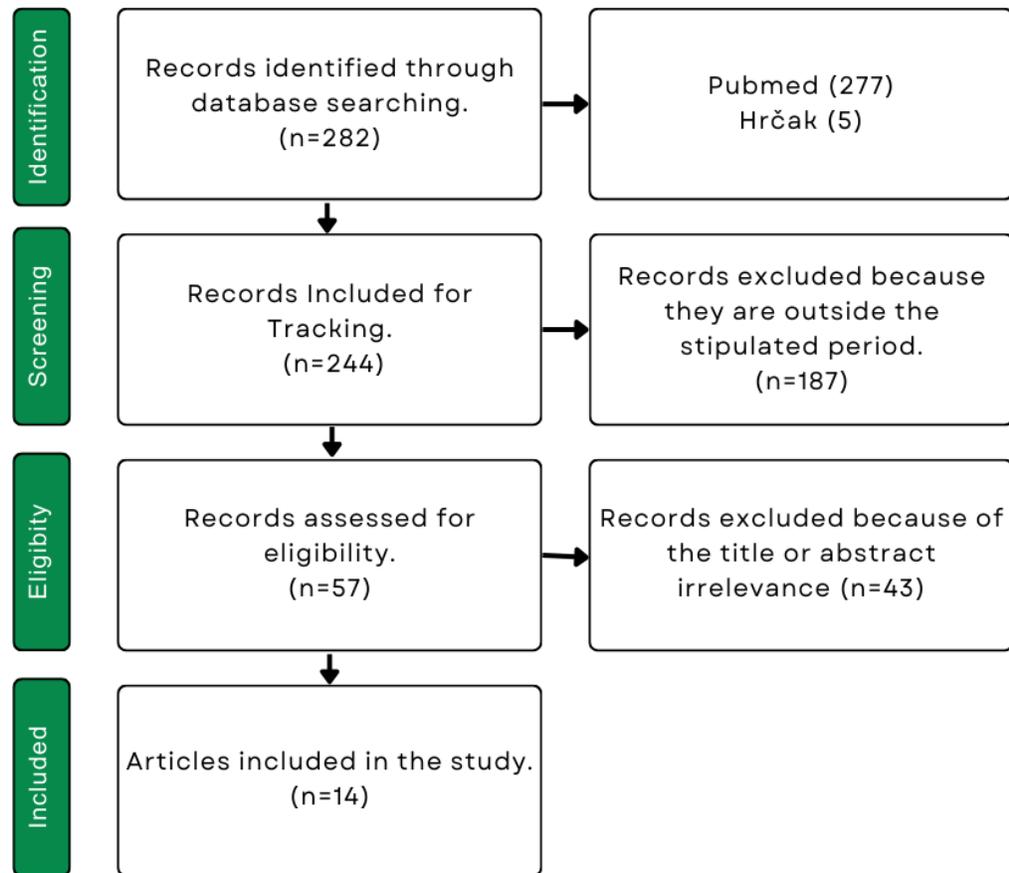
The primary objective of this scoping literature review is to explore the prevalence of burnout syndrome among critical care nurses, with a particular focus on assessing the influence of the COVID-19 pandemic. By gaining a deeper understanding of the prevalence and factors contributing to burnout among critical care nurses, we can better develop evidence-based interventions and strategies to potentially mitigate burnout, improve nurses' well-being, enhance the quality of patient care, and help the overall resilience of healthcare systems facing similar challenges in the future.

METHODS

We conducted a comprehensive search of the literature from 2020 to 2023, utilizing PubMed and Hrčak databases and targeting original research papers, systematic reviews, and review articles limited to English and Croatian language. Articles were limited to ICU nurses. Articles were selected according to the inclusion and exclusion criteria. The keywords utilized for the search included nurses, burnout syndrome, and job satisfaction. The flow diagram illustrates the systematic process employed to select relevant papers for inclusion in the literature review (Figure 1).

Figure 1.

Flow diagram of the literature review



An additional article was added from a reference making a total of 15 articles.

RESULTS

The review included 15 articles from 2020-2023, incorporating the period before, during, and after the peak of the COVID-19 pandemic. These

articles were selected to provide a comprehensive overview of burnout syndrome prevalence and how it has changed over the past three years.

The review highlights that burnout is not just a local issue but rather a global concern, with prevalence rates ranging widely from 10% to 50% (Dall'Ora et al., 2020). These rates gradually increased during the pandemic, particularly in Europe and Africa ((Dall'Ora et al., 2020).

Most included studies used the Maslach Burnout Inventory Scale to measure burnout, which consists of three theoretical constructs: emotional exhaustion, depersonalization, and reduced personal accomplishment. Also used were the Sociodemographic Data Form, along with the Minnesota Job Satisfaction scale, Copenhagen Burnout Inventory, and Malach–Pine scale. While all studies targeted ICU nurses, most did not specify the type of ICU

In Table 1, you will find a detailed compilation of the results from these articles, including information about the authors, the year the paper was written, the aim, the type of study, the population of the research, and the country in which the article was made. This table serves as a comprehensive reference to the key attributes of each included article.

DISCUSSION

The amalgamation of research findings from different corners of the globe underscores the significant prevalence of burnout among critical care nurses. Burnout is not just a localized issue but rather a global concern. Burnout has associated negative consequences, including job dissatisfaction, staff turnover, and compromised patient care quality (Dall'Ora et al., 2020). Ge et al.'s (2023) meta-analysis further strengthens this argument by revealing a substantial increase in nursing burnout rates following the onset of the COVID-19 pandemic across 38 countries (Ge et al., 2023). This is supported by individual studies by Pappa et al. (2020), Galanis et al. (2021), Lima et al. (2023), and Almeida and Poeira (2023), which collectively underscore the exacerbating impact of the COVID-19 pandemic on burnout levels among critical care nurses. They report that increased workloads, use of personal protective equipment, family separation, and distressing situations related to patient deaths were contributors to the heightened burnout seen during the global health pandemic. These findings highlight the necessity for targeted interventions in the aftermath of significant global events affecting healthcare professionals (7,9,15,16).

A distinctive contribution to this discourse comes from a cross-sectional study by Friganović and Selič (2020) of Croatian critical care

nurses. Croatian critical care nurses were found to frequently experience high levels of emotional exhaustion, depersonalization, and reduced personal accomplishment. Notably, factors such as higher education levels being associated with increased personal accomplishment and the observation of greater depersonalization among male nurses add layers of specificity to the understanding of burnout in the Croatian context (Friganović and Selič , 2020). Emotional fatigue and depersonalization resulting from burnout contribute to healthcare professionals becoming distant and compromising the quality of patient care (Rizzo, et al., 2023).

The systematic review and meta-analysis conducted by Gualano et al. (2021) bring further attention to gender and occupational differences in burnout rates, with female healthcare professionals and nurses exhibiting higher rates of affective symptoms. This emphasizes the need to consider demographic variables in understanding and addressing burnout (Gualano et al., 2021). Kumar et al.'s (2021) survey-based research in India further explores gender-related associations, revealing higher burnout among unmarried nurses. These findings underscore the complexity of burnout and the necessity of tailoring interventions to specific demographic groups (Kumar et al., 2021).

Kleinpell et al.'s (2020) literature review, conducted in the United States identify various organizational resources aimed at addressing burnout among critical care nurses (Kleinpell et al., 2020). The array of initiatives includes offerings such as healthy food choices, on-campus exercise facilities, interpersonal and communication training, and staff support groups. Additionally, Shbeer and Ageel's (2022) study in Saudi Arabia contributes valuable insights into coping mechanisms adopted by ICU staff, such as taking vacations, engaging in physical activity, and participating in relaxing activities. These coping strategies highlight the importance of organizational support and individual resilience in mitigating burnout (Shbeer and Ageel, 2022).

This thorough examination of burnout among critical care nurses shows global perspectives, acknowledging regional nuances and demographic variations. It underscores the need for tailored interventions, organizational support, and ongoing research to holistically address the multifaceted challenges posed by burnout in the critical care nursing profession.

Table 1.

List of articles included in the scoping review of papers targeting nurse burnout published between 2020-2023

Authors, year	Aim	Type of study	Population	Country	Results
Almeida C, Poeira AF (2023)	To assess the burnout level in nurses in the ICU, describe the relationship between burnout and sex, age, category, and professional experience	Pilot study	N = 29	Portugal	A significant portion of the nurses experienced high levels of emotional exhaustion (48.3%), depersonalization (37.7%) and low personal fulfillment (65.5%).
Aragão NSC et al. (2021)	To estimate the prevalence of burnout syndrome among intensive care nurses in the city-state of Bahia, Brazil (BRA), and to identify associated factors.	Cross-sectional study	N = 65	Bahia, Brazil	The prevalence of Burnout Syndrome among intensive care nurses was 53.6%. Several factors were associated with burnout syndrome: age, tobacco consumption, alcohol use, weekly night shift hours, employment relationship, holding an intensive care specialist title, the number of patients on duty, monthly income, and considering their job as active or high-strain.
Boateng YA, et al. (2021)	To investigate the causes of burnout syndrome among nurses.	Survey-based research	N = 40	Ghana	The causes of burnout: poor working conditions, work overload, low wages, emotionally distressing situations, handling a large number of patients alone, lack of breaks

	Explore coping strategies employed by nurses in the high-dependency unit.				during shifts, and inadequate nursing staff Additional contributing factors: lack of recognition for the nursing profession, conflicts between doctors and nurses, frequent night duties, feeling unappreciated by superiors or nurse managers, inadequate resources, negative attitudes of colleagues, and conflicts between nurses and managers.
C. Dall Ora et al. (2020)	To determine what is known (and not known) about the causes and consequences of burnout in nursing and how this is related	Theoretical review	N = 12,248 studies	America, Europe, and Asia	Burnout is a significant problem for nurses, (prevalence rates from 10% to 50%). Associated with a number of negative consequences (job dissatisfaction, turnover, patient care quality). The causes of burnout are complex and multifaceted but include factors such as high job demands, low job control, and lack of social support
Filipiak K, et al (2023)	To review Polish and foreign scientific literature on professional burnout syndrome among nurses and midwives	Literature review	Nurses and midwives	Poland	Significant Number of Nurses Experience Burnout Symptoms Factors that impact burnout: educational level, professional experience, financial circumstances, and relationship with colleagues

Friganović A, Selič P (2020)	Investigate burnout prevalence among critical care nurses in Croatia and explore the relationship between burnout, age, and gender	Cross-sectional study	N = 620	Croatia	Croatian critical care nurses frequently experience high levels of emotional exhaustion, depersonalization, and reduced personal accomplishment. Higher levels of education (master's or bachelor's degree) were associated with higher personal accomplishment. Those with 5-10 years of experience reported lower personal accomplishments. Male nurses exhibited greater depersonalization than females.
Galanis P, et al. (2021)	To examine the nurses' burnout and associated risk factors during the COVID-19 pandemic.	A systematic review	N = 18,935	USA	The overall prevalence of emotional exhaustion was 34.1%, depersonalization was 12.6%, and lack of personal accomplishment was 15.2%. The main risk factors that increased nurses' burnout were the following: younger age, decreased social support, low family and colleagues readiness to cope with COVID-19 outbreak, increased perceived threat of Covid-19, longer working time in

					quarantine areas, working in a high-risk environment, working in hospitals with inadequate and insufficient material and human resources, increased workload and lower level of specialized training regarding COVID-19.
Ge M, et al. (2023)	To evaluate the trend in nursing burnout rates before and during the coronavirus 2019 restrictions	Meta-analysis	N=113 438	38 countries	Before the epidemic, the nursing burnout rate rose with 0.0007497 (95% CI: 0.000032, 0.00148, t = 2.07, P = 0.04) per month. The trend of nursing burnout rate has increased by 0.023. The increasing trend of nursing burnout rate after the COVID-19 restrictions is 0.0238539 per month.
Gualano MR, et al (2021)	To evaluate the burnout prevalence among healthcare workers (HCWs) in intensive care units (ICUs) and emergency departments (EDs) during the COVID-19 pandemic. The secondary aim was to identify factors associated with burnout in this population	A systematic review	N = 12,596	USA	The samples ranged from 15 to 12,596 participants. The prevalence of overall burnout ranged from 49.3% to 58%. Nurses seemed to be at higher risk. Both socio-demographic and work-related features were associated with burnout. Many pandemic-related variables were associated with burnout, such as shortage in resources, worry regarding COVID-19, and stigma.

<p>Kleinpell R. et al. (2020)</p>	<p>To address burnout and promote well-being among critical care professionals by summarizing the results of a National Summit and survey conducted by the Critical Care Societies Collaborative (CCSC). To understand factors contributing to burnout and assess the effectiveness of various interventions in critical care settings.</p>	<p>Literature review</p>	<p>N = 680</p>	<p>US</p>	<p>The study revealed a range of organizational resources aimed at addressing burnout among critical care professionals. These included offerings such as healthy food choices on campus, on-campus exercise and gym facilities, self-scheduling options, interpersonal and communication training, personal or respite days, mindfulness-based stress reduction classes, and staff support groups, among others. The perceived importance of promoting wellness and mitigating burnout varied among respondents, with a minority (10.9%) considering it "highly important" and a significant proportion (38.9%) deeming it "not important" or "not at all important."</p>
<p>Kumar A, et al. (2021)</p>	<p>To investigate burnout syndrome among critical care nurses To assess the prevalence of burnout and its correlation among critical care nurses</p>	<p>Survey-based research</p>	<p>N = 125</p>	<p>India</p>	<p>62.4% of participants reported low or no burnout, while 37.6% experienced high burnout. Burnout was higher among unmarried nurses and significantly higher among those who hadn't received training for ICU work.</p>

					<p>Less experienced and more experienced nurses had lower burnout rates, but those with 1–5 years of experience had higher burnout</p> <p>Burnout was associated with work-life balance, extra duty in the last month, and poor job satisfaction</p> <p>No association found between burnout and patient conditions, interactions with patients or relatives, supportive organizational and departmental environments, payment, or job stress</p> <p>Burnout did not impact nurses' decisions to continue or leave their current jobs.</p>
Lima A, et al. (2023)	To explore burnout among nurses in ICUs during the COVID-19 pandemic	Scoping review	Nurses working in ICUs around the world, number not mentioned	ICU nurses globally	<p>ICU nurses worldwide experienced significant levels of burnout during the COVID-19 pandemic.</p> <p>Contributing factors included family separation, distressing situations related to patient deaths, increased workloads, the use of personal protective equipment, and feelings of frustration and helplessness.</p>

<p>Pappa S, et al, (2020)</p>	<p>To synthesize and analyze existing evidence on the prevalence of depression, anxiety and insomnia among HCWs during the Covid-19 outbreak.</p>	<p>A systematic review and meta-analysis</p>	<p>N = 33,062</p>	<p>China, Singapore</p>	<p>Anxiety was assessed in 12 studies, with a pooled prevalence of 23.2%, and depression in 10 studies, with a prevalence rate of 22.8%. A subgroup analysis revealed gender and occupational differences between female healthcare practitioners and nurses, who exhibited higher rates of affective symptoms compared to male and medical staff, respectively. Finally, insomnia prevalence was estimated at 38.9% across 5 studies.</p>
<p>Ribeiro EKA, et al (2021)</p>	<p>To investigate the impact of burnout syndrome on the quality of life of nurses.</p>	<p>Cross-sectional study</p>	<p>N = 83</p>	<p>Paraíba, Brazil</p>	<p>Burnout syndrome was more prevalent among older individuals, women, medical nurses, unmarried individuals with children, and those with higher incomes. The majority of nurses exhibited low professional efficacy, moderate depersonalization, and moderate emotional exhaustion, indicating a potential risk of developing burnout syndrome.</p>

Shbeer A & Ageel M (2022)	Assessment of occupational burnout among ICU staff in Saudi Arabia	Cross-sectional study	N = 150	Jazan region, Saudi Arabia	ICU staff exhibited higher levels of burnout compared to the norm sample Higher levels of emotional exhaustion, depersonalization, and reduced personal accomplishment among ICU staff Leading causes of burnout: workload, insufficient workplace rewards, and unfair treatment of employees Coping mechanisms identified by ICU staff: taking vacations, engaging in physical activity, and participating in relaxing activities
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KEY POINTS

1. Burnout levels within the nursing profession are high and increase with work experience.
2. There are sex differences, with female nurses suffering from higher rates of burnout in general with greater affective symptoms, compared to males who report greater depersonalization.
3. Burnout negatively impacts the quality of care.
4. Contributors to burnout include long hours, job dissatisfaction, patient care quality, high job demand, low job control, reduced resources, exhaustion, and a high-risk work environment.
5. High-risk work environment is associated with decreased quality of life outside of the work place.
6. Mitigating factors associated with higher rates of burnout include increased age and work experience.
7. COVID-19 increased burnout due to increased stress and work expectations, heightened responsibilities, and poor patient outcomes (such as increased mortality), especially in the initial stages of the pandemic.
8. Organizational interventions such as safe staffing and adequate resources, along with improved coping evidenced by taking vacations, eating healthy food, exercising, and engaging in other self-care activities, can help prevent and ease the impact of burnout.

LIMITATIONS

This study focuses exclusively on ICU nurses and includes the brunt of the COVID-19 pandemic, thus limiting generalizability. In addition, most of the research to date is heavily based on observational studies, primarily cross-sectional convenience samples. The authors also had resource constraints and were unable to access all articles for screening, so they may have missed important contributing articles.

CONCLUSION

The findings from various studies reveal that burnout rates have been alarmingly high in different healthcare specialties, with factors such as workload, inadequate resources, and the emotionally demanding nature of the profession contributing significantly to this problem. The pandemic has exacerbated burnout levels, highlighting the need for urgent and comprehensive interventions to support healthcare workers. To ensure the well-being of these essential frontline workers and maintain the quality of patient care, healthcare organizations must implement tailored strategies, provide adequate support mechanisms,

and prioritize the prevention and management of burnout as an integral part of routine healthcare practices.

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