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SCOPING REVIEW ON THE EFFECTS OF BURNOUT AMONG INTENSIVE CARE UNIT STAFF

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Abstract

Background: Burnout among intensive care unit (ICU) staff—characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment—is a major global concern linked to high turnover, deteriorating mental health, and compromised patient care. The COVID-19 pandemic intensified existing structural and emotional stressors in ICU settings.

Objective: This scoping review aimed to synthesize evidence on the prevalence of burnout among ICU staff, associated risk factors, impacts on staff well-being and patient care, and the effectiveness of interventions, with particular attention to the COVID-19 and post-pandemic context.

Methods: A total of 22 peer-reviewed articles focusing on adult ICUs were included, primarily involving ICU nurses and physicians. Burnout was most commonly measured using the Maslach Burnout Inventory. Study designs comprised systematic reviews and meta-analyses (n = 9), cross-sectional/prevalence studies (n = 8), longitudinal/observational studies (n = 3), and intervention studies (n = 2). Extracted outcomes included prevalence of burnout, associated systemic and personal factors, effects on staff well-being and retention, implications for patient care, and evaluated interventions.

Results: Pre-pandemic estimates indicated high emotional exhaustion in 31% of ICU nurses, high depersonalization in 18%, and low personal accomplishment in 46%. During COVID-19, burnout prevalence reached 41–44% among ICU physicians and up to 61–73% among nurses. Systemic factors—poor work environments, chronic understaffing, high patient-to-nurse ratios, and limited organizational support—were consistently stronger predictors of burnout than individual characteristics such as age or experience. Burnout was associated with reduced quality of life, anxiety, depression, sleep disturbances, and high intention to leave, with up to 43% of ICU nurses considering leaving their jobs. Patient care outcomes linked to higher burnout included more missed nursing care, poorer safety indicators, and lower patient satisfaction. Mindfulness-based interventions and structured resilience programs, including peer-support models such as the Battle Buddies program, demonstrated short-term reductions in emotional exhaustion and depersonalization and improvements in well-being, though evidence on long-term sustainability and physician-specific outcomes remains limited.

Conclusions: Burnout among ICU staff is highly prevalent, especially among nurses, and is primarily driven by modifiable structural factors such as heavy workload, chronic understaffing, and inadequate organizational support, all exacerbated by the COVID-19 pandemic. Burnout adversely affects staff mental health, retention, and patient safety. While mindfulness-based and peer-support interventions show promise for short-term symptom reduction, enduring improvements in ICU staff well-being and care quality will require system-level reforms in staffing, workflow, and leadership, alongside continued development and evaluation of individual-level interventions.

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Scoping Review on the Effects of Burnout Among Intensive Care Unit Staff

Emotional exhaustion, depersonalization, and decreased self-efficacy are the primary components of burnout in intensive care unit (ICU) members, and it is a pressing matter for the healthcare systems in the world. It is one of the causes of high turnover rates among employees, mental health deterioration, and care of patients (Papazian et al., 2023). The case is furthered by the peculiarities of the ICU and patients in critical conditions, moral distress, lack of resources, and, more, the conditions suggest the possibility of error (Mokaya et al., 2025; Lasater et al., 2020). COVID-19 only transferred these strains onto the employees, leaving them with workloads and patients' deaths in a state of ignorance, and having the chance of getting infected (Bruyneel and Smith, 2021; Sasangohar et al., 2020). The scoping review that is being discussed is investigating the evidence on the prevalence of burnout, associated variables, and how the burnout affects the staff and patient care and interventions among the ICU nurses.

METHODS

It was primarily the sample population composed of the ICU nurses and the physicians that were used in some studies. The initial phenomenon was the burnout, which is normally quantified as the Maslach Burnout Inventory. The settings where the effect of the pandemic and post-pandemic was taken into account were the adult ICUs around the world. They included prevalence rates, risk factors, the impact of the staff on well-being, staff retention, and the impact on patient care. The number of peer-reviewed articles was 22 in total. These research designs were systematic review and meta-analysis (n=9) research, cross-sectional/prevalence (n=8) research, longitudinal/observational (n=3) research, and intervention-based research (n=2).

RESULTS

Prevalence of Burnout

The turnover of the ICU personnel is enormous. The estimates prior to the pandemic showed that 31% of nurses in the ICU were highly emotionally exhausted, 18% highly depersonalized, and 46% low in personal accomplishment (García and Calvo, 2020). The post-statistics of the pandemic are even worse, and meta-analyses show that burnout among the high-level physicians working in the ICU is 41%- 44% and 61% in nurses during the COVID-19 pandemic (Papazian et al., 2023). The multinational study of the cross-sectional nature shows that the proportion of nurses employed in the ICU units is 73.2%, and Burnout levels are high to very high (Villagracia et al., 2025). The pandemic-related research also suggests that the burnout rates are elevated when more than half of the hospital nurses report that they are overwhelmed with burnout during understaffing and more frequent shifts with patients (Lasater et al., 2020; Bruyneel and Smith, 2021; Crowe et al., 2020).

Associated Factors

Systemic and personal factors cause burnout. They are the poor work environments, the overwork, the chronic understaffing, and the organizational support, which are always excellent predictors (Lasater et al., 2020; Smith et al., 2022). They are also susceptible to the personal factors, such as being younger, inexperienced in the profession in an ICU, unmarried, and working a long shift (Bruyneel et al., 2022). It was accompanied by the worsening of the symptoms under the influence of pandemic-related stressors, including fear of the pandemic, moral distress, and high exposure to mortality (Mokaya et al., 2025; Sasangohar et al., 2020; Dzau et al., 2020). The ICU nurses said that it was a usual scenario when they had to work on high-acuity cases of care, and they did not have enough staff, and the emotional burden of observing people dying daily (Caillet et al., 2020; Garcia and Calvo, 2020).

Impacts on Staff

The well-being of the ICU staff is a major determinant of burnout. It is associated with low quality of life, anxiety, depression, post-traumatic stress, sleeping issues, and high intention-to-leave (Villagracia et al., 2025; Mokaya et al., 2025; Pappa et al., 2020). The percentage of nurses in the ICU contemplating leaving their jobs reached 43%, and it contributes to the sustainability of working nurses (Bruyneel et al., 2022). The long-term effects of the ICU workplace are the psychological consequences, emotional exhaustion, and depersonalization, which become negative because of the constant exposure to stressors in the ICU (Kok et al., 2021; Toscano et al., 2022).

Impacts on Patient Care

The negative consequences of burnout present adverse implications for the delivery of care. The high rate of burnout has been linked with the insufficient amount of carried out nursing activities, low safety indicators, and patient satisfaction (Lasater et al., 2020; Villagracia et al., 2025). Most of the designs are cross-sectional, and no causal inferences can be made, but interrelationships can always be established between staff burnout and the lack of patient safety (Papazian et al., 2023; Crowe et al., 2020).

Interventions

MBI and structured resiliency programs have been shown to decrease burnout. Mindfulness-based treatments reduced emotional exhaustion by 34%, depersonalization, and enhanced the degree of life fulfillment and toughness (Alharbi and McKenna, 2025; Liu et al., 2025). Peer-support interventions such as the Battle Buddies program would allow

enhancing the psychological resilience, stress management, and staff involvement within a short period of time (Albott et al., 2020). Less research, however, is done on the sustainability levels on a long-term basis and effectiveness with regard to physician-specific results.

DISCUSSION

These findings confirm the source of high burnout rates among ICU employees that are above 40-70%, at which the nurses are more susceptible than the physicians (Villagracia et al., 2025; Papazian et al., 2023). COVID-19 was high and remains high after the pandemic due to structural problems in filling the ICU and resources associated with the staffing (Bruyneel and Smith, 2021; Mokaya et al., 2025). On the other hand, burnout is an acute resource-work demand imbalance compared to a short-term stressor.

Predictors of burnout are not that much individual but systemic. The first two are chronic staffing shortages and patient-to-nurse ratios, and have unfavorable organizational climates (Lasater et al., 2020; Bruyneel et al., 2022). Some of the stress factors related to the pandemic facilitated the inherent weaknesses and allowed the relevance of the structural rearrangements in the area of ICU-staffing, workflow creation, and leadership. The individual's power, age, experiences, and personal qualities will never be ranked as a second priority.

Burnout is also a factor that impacts personal cases or misery. It poses a threat to mental health and labor, as well as patient safety retention (Villagracia et al., 2025; Mokaya et al., 2025). It has been mentioned that the mindfulness-based and peer support interventions are short-term effective, whereas the studies are still lacking the long-term results, cost-effectiveness, and a wider scope of implementation (Albott et al., 2020; Alharbi and McKenna, 2025; Liu et al., 2025).

CONCLUSION

In conclusion, ICU burnout remains a very prevalent problem and is primarily precipitated by structural reasons that are easily modifiable, including heavy workload, systematic understaffing, and lack of organizational support. These hardships were increased due to the COVID-19 pandemic, but also due to structural inadequacies in critical care settings. The negative connotations of burnout include the psychological well-being of the staff, their retention, the quality of care provided to patients, and their safety. Mindfulness-based and peer-support interventions are effective in reducing the symptoms, but senior changes and assistance to individuals to guarantee the well-being of ICU staff and the care outcome are sustained in the long run are needed.

REFERENCES

[1.] Albott, C. S., Wozniak, J. R., McGlinch, B. P., Wall, M. H., Gold, B. S., & Vinogradov, S. (2020). Battle Buddies: Rapid deployment of a Psychological Resilience intervention for health care workers during the COVID-19 pandemic. *Anesthesia & Analgesia*, *131*(1), 43–54. https://doi.org/10.1213/ane.0000000000004912

[2.] Alharbi, B. a. A., & McKenna, N. (2025). A systematic review of mindfulness-based interventions to reduce ICU nurse burnout: global evidence and thematic synthesis. *BMC Nursing*, *24*(1), 927. https://doi.org/10.1186/s12912-025-03507-w

[3.] Bond, M., Stone, A., Salcido, R., & Schnarrs, P. (2020). How often were you traumatized? Reconceptualizing adverse childhood experiences for sexual and gender minorities. *Journal of Affective Disorders*, *282*, 407–414. https://doi.org/10.1016/j.jad.2020.12.117

[4.] Bruyneel, A., & Smith, P. (2021). Comparison of the prevalence of burnout risk between ICU and non-ICU nurses during the COVID-19 outbreak in French-speaking Belgium. *Intensive and Critical Care Nursing*, *66*, 103086. https://doi.org/10.1016/j.iccn.2021.103086

[5.] Bruyneel, A., Bouckaert, N., De Noordhout, C. M., Detollenaere, J., Kohn, L., Pirson, M., Sermeus, W., & Van Den Heede, K. (2022). Association of burnout and intention-to-leave the profession with work environment: A nationwide cross-sectional study among Belgian intensive care nurses after two years of pandemic. *International Journal of Nursing Studies*, *137*, 104385. https://doi.org/10.1016/j.ijnurstu.2022.104385

[6.] Caillet, A., Coste, C., Sanchez, R., & Allaouchiche, B. (2020). Psychological impact of COVID-19 on ICU caregivers. *Anaesthesia Critical Care & Pain Medicine*, *39*(6), 717–722. https://doi.org/10.1016/j.accpm.2020.08.006

[7.] Crowe, S., Howard, A. F., Vanderspank-Wright, B., Gillis, P., McLeod, F., Penner, C., & Haljan, G. (2020). The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study. *Intensive and Critical Care Nursing*, *63*, 102999. https://doi.org/10.1016/j.iccn.2020.102999

[8.] Dzau, V. J., Kirch, D., & Nasca, T. (2020). Preventing a parallel pandemic — a national strategy to protect clinicians' Well-Being. *New England Journal of Medicine*, *383*(6), 513–515. https://doi.org/10.1056/nejmp2011027

[9.] García, G. M., & Calvo, J. C. A. (2020). The threat of COVID-19 and its influence on nursing staff burnout. *Journal of Advanced Nursing*, *77*(2), 832–844. https://doi.org/10.1111/jan.14642

[10.] Kok, N., Van Gurp, J., Teerenstra, S., Van Der Hoeven, H., Fuchs, M., Hoedemaekers, C., & Zegers, M. (2021). Coronavirus Disease 2019 immediately increases burnout symptoms in ICU professionals: a Longitudinal cohort study*. *Critical Care Medicine*, *49*(3), 419–427. https://doi.org/10.1097/ccm.0000000000004865

[11.] Lasater, K. B., Aiken, L. H., Sloane, D. M., French, R., Martin, B., Reneau, K., Alexander, M., & McHugh, M. D. (2020). Chronic hospital nurse understaffing meets COVID-19: an observational study. *BMJ Quality & Safety*, *30*(8), 639–647. https://doi.org/10.1136/bmjqs-2020-011512

[12.] Liu, M., Guo, Y., Bai, J., Wang, Z., Han, J., Zhu, J., & Wang, J. (2025). Effectiveness of mindfulness-based interventions on psychosocial well-being and occupational-related outcomes among nurses in the intensive care unit: A systematic review and meta-analysis. *Australian Critical Care*, *38*(4), 101255. https://doi.org/10.1016/j.aucc.2025.101255

[13.] Mokaya, P. O., Ntinyari, N., Limungi, G., Kasmai, E. K., & Gabriella, H. (2025). Assessing the impact of the coronavirus pandemic on the mental health status of intensive care unit nurses: a systematic review. *BMC Nursing*, *24*(1), 487. https://doi.org/10.1186/s12912-025-03117-6

[14.] Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsi, E., & Katsaounou, P. (2020). Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain Behavior and Immunity*, *88*, 901–907. https://doi.org/10.1016/j.bbi.2020.05.026

[15.] Papazian, L., Hraiech, S., Loundou, A., Herridge, M. S., & Boyer, L. (2023). High-level burnout in physicians and nurses working in adult ICUs: a systematic review and meta-analysis. *Intensive Care Medicine*, *49*(4), 387–400. https://doi.org/10.1007/s00134-023-07025-8

[16.] Sasangohar, F., Jones, S. L., Masud, F. N., Vahidy, F. S., & Kash, B. A. (2020). Provider burnout and fatigue during the COVID-19 pandemic: Lessons learned from a High-Volume Intensive Care Unit. *Anesthesia & Analgesia*, *131*(1), 106–111. https://doi.org/10.1213/ane.0000000000004866

[17.] Toscano, F., Tommasi, F., & Giusino, D. (2022). Burnout in Intensive Care Nurses during the COVID-19 Pandemic: A Scoping Review on Its Prevalence and Risk and Protective Factors. *International Journal of Environmental Research and Public Health*, *19*(19), 12914. https://doi.org/10.3390/ijerph191912914

[18.] Villagracia, H. N., Akhdair, T. A., Sallam, S. a. E. G., Villagracia, R. W. A., Alshammari, B., Alrasheeday, A. M., Nageeb, S. M., Dando, L. L., Nacubuan, O. A., Alsaif, T. A., Raguindin, S. M., Caspillo, I. J., Alshammari, S. A., Alshammari, M. a. E., Grande, R. a. N., & Berdida, D. J. E. (2025). Examining the link between intensive care unit nurses' burnout and perceived quality of life: a multicenter cross-sectional study. *BMC Nursing*, *24*(1), 399. https://doi.org/10.1186/s12912-025-03051-7