

# The Impact of Burnout on Critical Care Nurses: Exploring Resiliency and Intervention Strategies

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## Abstract

Burnout among critical care nurses is a growing concern with significant implications for both nurse well-being and patient safety. This scoping review investigates the causes, effects, and strategies related to burnout and resilience in critical care settings. It identifies key factors contributing to burnout, including high workloads, emotional exhaustion, moral distress, and organizational challenges such as staffing shortages. The review also highlights the role of resilience in managing burnout, with strategies like mindfulness, physical activity, and team-building exercises showing promise in improving nurse resilience. Organizational support, particularly in the form of appropriate staffing ratios and leadership fostering a supportive environment, is critical in preventing burnout. The findings underscore the need for both individual and organizational interventions to promote nurse well-being and enhance patient care in critical care environments. Future research should focus on preventive measures and evaluate the effectiveness of different resilience strategies.

Keywords: nurses, critical care nurses, burnout, resiliency

## Introduction

Burnout is a condition where employees are unable to meet the demands of their work due to environmental and psychological stressors (Maslach et al., 2001; Mealer et al., 2014). This phenomenon, often referred to as professional exhaustion syndrome, results from chronic stress in the workplace. Nurses, due to the inherently traumatic nature of their work, are frequently confronted with stressors that can lead to job turnover and the eventual departure from the

profession (de Oliveira et al., 2019). In healthcare, this issue is reflected in increased absenteeism, reduced productivity, and negative impacts on a nurse's ability to deliver effective and safe care, ultimately compromising patient safety standards (de Oliveira et al., 2019; Maslach et al., 2001; Mealer et al., 2014). The symptoms of burnout can include fatigue, headaches, eating disorders, insomnia, irritability, emotional instability, mental health issues, substance abuse, professional misconduct, absenteeism, and even suicide (Maslach et al., 2001; Mealer et al., 2014). Unfortunately, the rising nurse turnover rates, coupled with difficulties in recruiting new professionals, contribute to nursing shortages. These shortages, in turn, have negative effects on the work environment and the nursing profession, which is the largest occupational group within the healthcare workforce (Cope et al., 2016). Resilience, on the other hand, is defined as the ability to develop coping strategies to mitigate burnout, and its effectiveness varies according to the specific setting and context in which nurses operate (Rees et al., 2015; Rushton et al., 2015). Nurses engage in physical exercise, problem-solving strategies, and positive social support systems to alleviate burnout and stress (Rees et al., 2015). Moreover, it is crucial to investigate the extent of burnout among nurses and the potential role of resilience in mitigating this issue for both individual nurses and healthcare organizations. Understanding these factors will aid in the development of strategies to reduce stress, pressure, and health problems among critical care nurses. Therefore, the aim of this review is to explore the existing literature on nurse burnout and resilience, with a particular focus on critical care nurses. This review will also seek to identify potential causes and interventions for both nurses and healthcare organizations to address burnout and support nurses in critical care environments.

## **Background**

### **1. Burnout**

The term "burnout" was first used to describe the occupational risks common among human services workers in the 1970s, and it gained significant attention in the 1980s through the work of Maslach, who studied the long-term effects of stress across various professions (Maslach et al., 2001). According to Gasparino and Guirardello (2015), burnout is a psychological syndrome that affects individuals exposed to chronic stressors in the workplace, with a higher incidence observed among those involved in human services. Burnout syndrome consists of three interrelated yet independent dimensions: (a) emotional exhaustion, which involves a depletion of energy and physical and mental fatigue; (b) depersonalization, which leads to emotional detachment; and (c) reduced professional accomplishment, which results in dissatisfaction with work activities, decreased self-esteem, diminished peer interactions, and a sense of incompetence (Maslach et al., 2001; Mealer et al., 2014; Mercés et al., 2019).

When applied to the nursing profession, emotional exhaustion refers to a nurse's sense of dissociation from their work and a feeling of being overwhelmed by the high demands and stress (Maslach et al., 2001; Mealer et al., 2014; Rodríguez-Rey et al., 2019). Depersonalization is seen as the nurse's emotional withdrawal from their work and is often an immediate response to emotional exhaustion (Maslach et al., 2001; Mealer et al., 2014; Rodríguez-Rey et al., 2019). Reduced personal accomplishment, in this context, refers to the nurse's belief that they are unable to perform their duties professionally, which leads to a negative perception of their work environment (Maslach et al., 2001; Mealer et al., 2014). There is limited research regarding the relationship between burnout and resilience among intensive care unit (ICU) nurses worldwide, particularly in Canada (Jackson et al., 2018; Rodríguez-Rey et al., 2019). Furthermore, when applying Maslach's theory to nurse burnout, it is clear that both nursing burnout and organizational burnout are significant contributors to job turnover (Maslach et al., 2001; Mealer et al., 2014).

## 2. Resiliency

Resilience is conceptualized in the literature through three fundamental components: 1) confirming fit, 2) stage setting, and 3) enhancing the environment (Hodges et al., 2010; Rees et al., 2015). "Confirming fit" (Hodges et al., 2010; Rees et al., 2015) refers to the personal passion that an individual holds for their work. The second component, "stage setting" (Hodges et al., 2010; Rees et al., 2015), is described as the environment in which resources and support are available to the individual. Finally, "enhancing the environment" refers to the process by which an individual adapts successfully to their surroundings, thereby optimizing their coping abilities (Hodges et al., 2010; Rees et al., 2015).

The Collective Resilience Intervention Model was developed to demonstrate how individuals can more effectively manage workplace stressors at various levels (Heritage et al., 2019; Mendy, 2020). The model delineates four key domains: identifying workplace stressors, initiating resilience development, combining structural and non-structural resilience, and embedding collective resilience interventions (Mendy, 2020). The identification of stressors involves allowing individuals to recognize and articulate workplace stressors, thereby promoting early intervention by the organization to address these concerns (Mendy, 2020). The second domain, initiation of resilience development, is directed toward staff and management, focusing on the development of skills such as counseling and mentoring to enhance resilience (Heritage et al., 2019; Mendy, 2020). The third domain emphasizes the role of organizational structural procedures in fostering resilience, with both material and non-material resources used to mitigate workplace stress and burnout for individuals, employees, managers, and organizations (Mendy, 2020).

The Collective Resilience Intervention Model further contributes to the understanding of resilience, particularly by providing insights on how nurses can achieve a balance between their work and personal lives (Hodges et al., 2010; Rees et al., 2015). This is accomplished through the establishment of a flexible organizational plan that promotes work-life balance, which is developed with the involvement of nurses, the broader community, and ongoing assessments of employee well-being (Rees et al., 2015).

## 3. Significance of Nurse Burnout and Resiliency in Critical Care Nurses

Nurses, due to the nature of their work, represent a significant portion of healthcare workers who are frequently exposed to traumatic events, a factor that contributes to job turnover (Mealer et al., 2014). Nurse burnout not only adversely affects patient care delivery but also has negative repercussions for the nursing profession itself (Mealer et al., 2014). Nurses who experience poor psychological well-being tend to leave the nursing workforce earlier, resulting in higher turnover rates and increased economic costs for employers (Mealer et al., 2014).

For instance, an organization may lack adequate support for employees, particularly if nurse leaders exhibit toxic behavior toward staff (Mealer et al., 2014). Many nurses may resign as early as six months after being hired, resulting in high turnover. Consequently, the organization must invest in advertising, recruiting, selecting, and training new nurses, leading to significant economic and human resource burdens due to nurse burnout. Burnout has been shown to result in increased absenteeism, negative psychological consequences such as depression and disengagement from work, decreased morale, and staff turnover. This turnover has been estimated to cost over \$21,000 per nurse (O'Brien-Pallas et al., 2006).

However, nurses who develop resilience skills are often better equipped to manage the stress associated with their work environment. Building positive working relationships with colleagues is essential for improving work dynamics and patient safety, both of which are linked to job satisfaction in nursing (Maslach et al., 2001; Mealer et al., 2014).

The focus on critical care nursing and burnout was driven by the recognition that ICU nurses provide care for critically ill and unstable patients, often spending extended periods with them. These nurses are frequently subjected to work-related stress, which can lead to the development

of psychological disorders, including burnout syndrome (Eric et al., 2012; Mealer et al., 2012). Furthermore, nursing shortages, particularly in the ICU, negatively impact the delivery of patient care, as nurses constitute a large proportion of the healthcare workforce in this setting (Mealer et al., 2012; Morphet et al., 2011). ICU nurses are also thought to experience higher levels of stress and burnout compared to those working in other hospital units (Guntupalli et al., 2014). Given the significance of burnout and resilience for both critical care nurses and patients, this review will explore the impact of burnout and resilience among critical care nurses.

### **The Aim of the Review**

The purpose of this review is to examine existing knowledge regarding nurse burnout and resilience, with a specific focus on critical care nurses. It is crucial to identify the potential causes and interventions for burnout, both for nurses and organizations, in order to provide better support for nurses working in critical care environments.

### **Increased Workload**

A significant body of research identifies the demanding nature of the work environment and the nursing profession as primary factors contributing to burnout among critical care nurses. Four studies highlight increased workload as a key cause of burnout in this group (Jackson et al., 2018; Mealer et al., 2017; Rushton et al., 2015; Zulfiqar & Rafiq, 2020). According to Rushton et al. (2015), the growing complexity of patient needs in critical care settings is a major factor contributing to burnout among nurses. The aging population of the nursing workforce has also been cited as a contributing factor to burnout, which subsequently exacerbates the nursing shortage (Jackson et al., 2018; Mealer et al., 2017; Rushton et al., 2015).

Nurse shortages and the increased demands from patients have been identified as contributing factors to burnout, as the existing critical care nurses are unable to meet the needs of their patients effectively (Jackson et al., 2018; Mealer et al., 2017). Furthermore, Zulfiqar and Rafiq (2020) noted that the complex nature of patients in critical care settings placed additional demands on nurses, leading to higher workloads and, as a result, burnout in these high-acuity areas.

### **Emotional/Personal Factors**

Changes in the work environment have made critical care nurses particularly susceptible to burnout. These nurses are often provided with limited resources to manage the increased workload required for patient care, and are expected to maintain patience, empathy, and alertness in a highly stressful environment (Mealer et al., 2017; Zulfiqar & Rafiq, 2020). While critical care nurses are trained to provide care with patience and empathy, the combination of increased workloads and limited resources has led to an imbalance between patient demands and available support, ultimately resulting in burnout (Zulfiqar & Rafiq, 2020).

Mealer et al. (2017) highlighted that increased complaints among nurses were a significant emotional factor contributing to burnout. The study found that unaddressed workplace stressors, which critical care nurses, particularly ICU nurses, face—either directly or indirectly—diminish their morale, making it harder to perform their duties effectively and deliver quality care (Mealer et al., 2017). Other stressors, such as strained working relationships or the negative impact of work schedules and personal commitments, have further worsened teamwork dynamics among critical care nurses (Mealer et al., 2017; Zulfiqar & Rafiq, 2020). Additionally, long-term exposure to such workplace stressors, including poor working conditions in critical care units, has contributed to a heightened vulnerability to burnout among critical care nurses (Mealer et al., 2017; Zulfiqar & Rafiq, 2020).

Zulfiqar and Rafiq (2020) pointed out that while nurses in various departments may face stress, ICU nurses are especially vulnerable to stress from the care of totally dependent patients, which can lead to burnout at varying levels. The susceptibility to emotional trauma or compassionate fatigue, which may arise from patient loss and inadequate training to manage the emotional needs of both patients and their families, has also been identified as a contributing factor to burnout among critical care nurses (Flanders et al., 2020; Magtibay et al., 2017; Zulfiqar & Rafiq, 2020).

### **Organizational Factors**

Jackson et al. (2018) reported that workplace adversity had a detrimental effect on critical care nurses. The study identified organizational policies, including political attitudes toward healthcare and insufficient funding to provide adequate services, as contributing factors to workplace adversity (Jackson et al., 2018). Additionally, inappropriate staffing levels or high nurse-to-patient ratios, exacerbated by nursing shortages, particularly in critical care settings, were recognized as forms of workplace adversity (Jackson et al., 2018; Kelly et al., 2021). The lack of meaningful interactions between patients' families and nurses, poor inter-professional relationships among nurses and other healthcare team members, as well as instances of horizontal and vertical workplace violence and job instability stemming from union-related issues, were all highlighted as contributing factors to the increased levels of burnout among critical care nurses (Jackson et al., 2018; Kelly et al., 2021). Furthermore, role conflict, along with horizontal and vertical workplace bullying—whether between more experienced nurses and their less experienced colleagues, or between nurses and other hospital staff—has been identified as a factor that heightens the likelihood of burnout among critical care nurses (Jackson et al., 2018).

### **What Are the Effects of Nurse Burnout on Critical Care Nurses?**

Several studies have explored the various effects of burnout on critical care nurses, focusing on its impact on patients, the nursing profession, and healthcare organizations (Arrogante & Aparicio-Zaldivar, 2017; Flanders et al., 2020; Magtibay et al., 2017; Mealer et al., 2017; Rushton et al., 2015; Zulfiqar & Rafiq, 2020). To better understand these effects, it is essential to examine how burnout influences the quality of care provided to patients, the well-being of the nursing profession, and the functioning of healthcare organizations.

### **Patients**

Prolonged exposure of critical care nurses to workplace stressors, such as excessive workload and time pressures, has been shown to negatively affect the quality of care provided to patients (Arrogante & Aparicio-Zaldivar, 2017; Flanders et al., 2020). Burnout among critical care nurses has led to patient dissatisfaction with the care provided, with relatives of patients also voicing concerns about the quality of care during periods when nurses were experiencing burnout (Arrogante & Aparicio-Zaldivar, 2017; Flanders et al., 2020). Furthermore, Flanders et al. (2020) found that burnout among nurses negatively affected patients, primarily due to changes in the nurse's attitude toward work, which in turn reduced the overall quality of patient care. Several authors have noted that diminished care quality due to burnout is linked to an increase in medical errors, ultimately compromising patient safety (Arrogante & Aparicio-Zaldivar, 2017; Flanders et al., 2020; Magtibay et al., 2017; Mealer et al., 2017; Rushton et al., 2015; Zulfiqar & Rafiq, 2020).

### **Nurses and Profession**

Overall, burnout has a negative impact on nurses and the nursing profession as a whole. Nursing is widely recognized as one of the most stressful occupations (Mealer et al., 2017; Rushton et al., 2015), which heightens the susceptibility of nurses to burnout. As indicated in the literature, nurses who experience burnout often exhibit reduced work productivity, which has detrimental effects on both the individual nurse and the nursing profession at large (Jackson et al., 2018). Additionally, Flanders et al. (2020) found that burnout caused critical care nurses

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to disengage from their work, leading to a decline in personal accomplishment, including the achievement of professional goals. As a consequence, critical care nurses experiencing burnout often suffer from persistent fatigue, which contributes to increased absenteeism and can result in mental health issues such as insomnia and depression (Flanders et al., 2020; Jackson et al., 2018; Mealer et al., 2017; Rushton et al., 2015).

### **Organization**

This section discusses the effects of burnout on healthcare organizations, particularly focusing on how nurses' perceptions of workplace stressors negatively impact organizational performance. Increased nurse turnover and nursing shortages have been reported as negative consequences for organizations due to burnout.

Flanders et al. (2020) emphasized that high nurse turnover, resulting from burnout, leads to significant organizational costs associated with training new staff to fill vacant positions. The turnover of nurses, driven by workplace stressors experienced by critical care nurses, has had a detrimental effect on the quality of care delivered to patients (Flanders et al., 2020; Jackson et al., 2018; Magtibay et al., 2017; Mealer et al., 2017; Rushton et al., 2015; Zulfiqar & Rafiq, 2020).

### **Strategies Used to Prevent or Manage Burnout**

This section discusses strategies that promote resiliency and prevent nurse burnout, categorized into two key themes as outlined by various authors: A) Therapy: mindfulness; B) Supporting skills and training.

#### **A) Therapy: Mindfulness**

Numerous studies have highlighted mindfulness as an effective strategy for fostering resiliency and preventing burnout among critical care nurses (Arrogante & Aparicio-Zaldivar, 2017; Cheung et al., 2020; Mealer et al., 2017). Mealer et al. (2017) suggested that early recognition of stressors, along with managing these stressors before they escalate into burnout, has enabled critical care nurses to better cope with the negative effects of working in a high-stress environment. According to Arrogante and Aparicio-Zaldivar (2017), critical care nurses with higher levels of mindfulness demonstrated greater resilience to the stressors that typically lead to burnout due to their heightened awareness of these stressors in the critical care setting. Mindfulness therapy was also regarded as an effective strategy by the critical care nurse participants in Mealer et al. (2017b) study, allowing nurses to identify which interventions worked most effectively for them.

Moreover, Cheung et al. (2020) emphasized the importance of integrating mindfulness practices into nurses' daily routines at work, noting that incorporating meditation sessions for hospital teams was a successful method for managing burnout. This practice allowed for personal reflection and provided nurses with a chance to rejuvenate, reducing the impact of workplace stressors. Jackson et al. (2018) found that engaging in physical and artistic activities, which enhanced communication skills, was also a form of mindfulness that helped mitigate burnout and foster resiliency among critical care nurses. Additionally, mindfulness practices helped develop and strengthen effective interpersonal relationships, promote teamwork, and address workplace violence by identifying available resources (Jackson et al., 2018).

#### **B) Supporting Skills and Training**

The strategies supporting resiliency and preventing burnout can be classified into individual, group, and organizational approaches as reported in the reviewed studies.

The individual approach focuses on training and skill development aimed at empowering nurses (Cheung et al., 2020; Isa et al., 2019; Kelly et al., 2021; Magtibay et al., 2017). Interventions aimed at improving positive emotional skills include teaching critical care nurses how to apply positive reappraisal, recognize individual strengths, make effective decisions,

practice self-compassion, and show compassion towards others (Cheung et al., 2020; Isa et al., 2019; Kelly et al., 2021; Magtibay et al., 2017). Another individual approach discussed in the literature involves addressing physical issues with medication and providing psychological support through religious practices (Zulfiqar & Rafiq, 2020).

The group approach includes debriefing sessions conducted every other month, during which critical care nurses are educated about burnout and resiliency (Flanders et al., 2020). In studies by Flanders et al. (2020) and Mealer et al. (2017), it was noted that the development of strong interpersonal relationships, enhanced teamwork, and improved communication within the team fostered positive interactions, which in turn promoted resiliency. Additionally, Mealer et al. (2017) identified event-triggered counseling sessions as a group intervention designed to help critical care nurses immediately recognize and manage stressors, thus preventing burnout.

The organizational approach emphasizes promoting the health and well-being of critical care nurses at an institutional level (Jackson et al., 2018; Kelly et al., 2021). According to Jackson et al. (2018), it is crucial for nurse leaders and healthcare organizations to provide the necessary support, motivation, and resources to help nurses meet the demands of their jobs. Kelly et al. (2021) reported that ensuring adequate staffing to address nurse-to-patient ratios, along with meaningful recognition through awards and expressions of gratitude, is an organizational approach that encourages resiliency and helps prevent burnout.

### **Discussion**

This review examined the existing knowledge regarding nurse burnout and resilience, with a particular focus on critical care nurses. It also identified the causes and interventions aimed at addressing burnout and supporting nurses in the critical care environment. The literature reviewed in this study highlights the role of resiliency in preventing burnout among critical care nurses. To address the research questions posed in this review, the Maslach Multidimensional Theory of Burnout (Maslach & Jackson, 1986; Maslach et al., 2001) and the Collective Resilience Intervention Model (Heritage et al., 2019; Mendy, 2020) were used as theoretical frameworks to analyze and interpret the findings. These theoretical frameworks allowed for broader generalizations about the topic.

The Maslach Multidimensional Theory of Burnout outlines three independent dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. This model suggests that burnout results from more than one specific factor (Maslach & Jackson, 1986; Maslach et al., 2001). On the other hand, the Collective Resilience Intervention Model identifies four components: the identification of workplace stressors, the initiation of resilience development, the combination of structural and non-structural resilience, and the embedding of collective resilience interventions (Mendy, 2020).

### **Causes of Burnout Among Critical Care Nurses**

Critical care environments expose nurses to a variety of stressors, yet there remains limited understanding in the literature regarding the relationship between burnout and resiliency, particularly among ICU nurses globally (Jackson et al., 2018). These settings are high-pressure environments where nurses are required to deliver specialized care to critically ill patients who often depend on life-support equipment such as ventilators (Eric et al., 2012). Mealer et al. (2017) and Rushton et al. (2015) highlighted that the aging workforce and the increasing complexity of patient needs in critical care settings contribute to heightened workloads, which are major factors in burnout. This review also found that nursing shortages are linked to higher workloads, leading to increased turnover among critical care nurses (Jackson et al., 2018, Mealer et al., 2017, Rushton et al., 2015).

The World Health Organization (WHO, 2019) advocates for a 1:1 nurse-to-patient ratio in critical care units, including ICU, neonatal, and emergency units, because this ratio has been shown to significantly impact patient outcomes (Kelly et al., 2021). However, this recommendation is often not followed, as noted by Kelly et al. (2021). For instance, in Canada,

critical care nurses have criticized the staffing ratios in healthcare organizations, which result in higher workloads, aligning with findings from Jackson et al. (2018). Zulfiqar and Rafiq (2020) and Mealer et al. (2017) pointed out that the complexity of critical care patients adds additional pressure on nurses, making them more vulnerable to burnout due to limited resources.

According to Mealer et al. (2017), an increased workload coupled with unresolved workplace stressors, such as substandard working conditions, undermines morale, further contributing to burnout and moral distress. Brown et al. (2018) also found that moral distress stems from low morale caused by workplace stressors. Emotional trauma, resulting from the loss of patients and the lack of proper training to support patients' and families' emotional needs, were identified as contributors to moral distress and burnout (Flanders et al., 2020, Magtibay et al., 2017, Zulfiqar and Rafiq, 2020).

When emotional exhaustion sets in, nurses may dissociate from their work both mentally and emotionally, as a result of excessive workload and stress (Brown et al., 2018, Maslach et al., 2001). Factors such as inexperienced colleagues, high nurse turnover, nursing shortages, and inadequate support systems, which lead to increased workload and stress, were highlighted by Mealer et al. (2017), Rushton et al. (2015), and Zulfiqar and Rafiq (2020) as contributing to burnout, thereby supporting the findings of Brown et al. (2018). These factors contribute to emotional exhaustion in nurses, which Maslach (2001) defines as one of the core stress dimensions of burnout. Depersonalization, the interpersonal dimension of burnout, is often a direct response to emotional exhaustion and can cause nurses to develop negative attitudes toward others (Maslach et al., 2001). The workplace crisis, arising from decisions about treatment plans and the goals of critically ill patients, may compel nurses to act in ways that conflict with their personal values, thereby inducing moral distress (Flanders et al., 2020, Magtibay et al., 2017). For example, the dilemma of being empathetic yet acting in ways perceived as morally wrong, due to organizational hierarchy, can exacerbate depersonalization among critical care nurses (Brown et al., 2018, Flanders et al., 2020, Magtibay et al., 2017, Zulfiqar and Rafiq, 2020). Depersonalization, therefore, undermines nurses' professional integrity and commitment, as evidenced in all 11 articles reviewed. Reduced personal accomplishment, often triggered when critical care nurses recognize poor patient outcomes or feel unable to cope with patient deaths, leads to feelings of professional inadequacy (de Oliveira et al., 2019, Mealer et al., 2017, Zulfiqar and Rafiq, 2020). The mismatch between patient needs and limited resources, such as inadequate staffing, places further pressure on nurses, disrupting their professional lives (de Oliveira et al., 2019, Mealer et al., 2017). Maslach et al. (2001) describe this as a diminished sense of competence and productivity, where nurses feel inadequate to assist patients, representing the self-evaluation component of burnout. Such experiences of reduced personal accomplishment can result in mental health issues and difficulties in managing the demands of the profession (Maslach, 2001).

### **Effects of Nurse Burnout on Critical Care Nurses**

Extended exposure to workplace stressors, such as excessive workload and time pressures, has been shown to negatively impact the care provided by critical care nurses (Arrogante and Aparicio-Zaldivar, 2017, Flanders et al., 2020). Furthermore, burnout leads to changes in nurses' attitudes towards their work, resulting in complaints about patient dissatisfaction and increased medical errors, ultimately jeopardizing patient safety (Arrogante and Aparicio-Zaldivar, 2017, de Oliveira et al., 2019, Flanders et al., 2020, Magtibay et al., 2017, Mealer et al., 2017, Rushton et al., 2015). Additionally, the stressful nature of critical

care nursing makes nurses particularly vulnerable to burnout, which in turn reduces their work productivity. Workplace stress also contributes to absenteeism, chronic fatigue, insomnia, and depression, all of which negatively affect the nurse and the nursing profession (Flanders et al., 2020, Jackson et al., 2018, Mealer et al., 2017, Rushton et al., 2015).

Moreover, increased nurse turnover, a direct consequence of burnout, leads to substantial organizational costs, particularly in the training of new nurses to replace those who have left (Flanders et al., 2020, Jackson et al., 2018). Nurse turnover in critical care settings has also been shown to affect patient care delivery, as it adds additional stress on the remaining nurses (Flanders et al., 2020, Jackson et al., 2018, Magtibay et al., 2017, Mealer et al., 2017, Rushton et al., 2015, Zulfiqar and Rafiq, 2020).

### **Resiliency**

This review identified resiliency as a key factor in mitigating the effects of burnout for critical care nurses. Developing coping strategies to reduce burnout and enhance resiliency includes both external actions and activities, such as engaging in physical exercise, honing problem-solving skills, and building supportive networks (Brown et al., 2018, de Oliveira et al., 2019, Rushton et al., 2015). Mendy (2020) argues that resiliency influences human resource development and should focus on collective efforts within organizations to manage workplace stress. The first step in building resilience is recognizing and understanding the stressors that contribute to burnout, followed by the initiation of resilience-building actions, such as counseling and leveraging both material and non-material resources (Heritage et al., 2019, Mendy, 2020).

Some critical care nurses are able to manage the long-term effects of stress by utilizing resiliency, often due to their enhanced problem-solving abilities (Brown et al., 2018, de Oliveira et al., 2019). Through the Collective Resilience Intervention Model, resilient nurses were found to effectively identify stressors and apply appropriate coping mechanisms (de Oliveira et al., 2019, Heritage et al., 2019, Mendy, 2020). Several interventions have been implemented by critical care nurses to enhance resiliency and reduce burnout. For example, mindfulness training has proven effective in decreasing burnout by helping nurses connect their thoughts, physical activity, and emotions (Arrogante and Aparicio-Zaldivar, 2017, Cheung et al., 2020, Mealer et al., 2017). Mindfulness practices have been promoted for their ability to enhance self-compassion and empathy, fostering an atmosphere of support for resiliency (Brown et al., 2018). de Oliveira et al. (2019) suggested that mindfulness techniques can be developed and tailored to meet the specific challenges faced by nurses. Similarly, mindfulness was recommended as a strategy for mitigating burnout by helping nurses identify and address burnout stressors (Magtibay et al., 2017, Mealer et al., 2017). Additionally, event-triggered counseling, communication skills training, and the use of relaxation techniques, such as yoga, organized by healthcare organizations, were identified as effective strategies for supporting resiliency among nurses (de Oliveira et al., 2019, Jackson et al., 2018).

An organizational strategy to enhance nurse resiliency includes incorporating team meditation sessions into the work environment, which facilitates reflection and helps refresh nurses affected by workplace stressors. This approach also promotes the development of effective interpersonal relationships and teamwork (Cheung et al., 2020, Jackson et al., 2018). Furthermore, the use of religious approaches, such as prayers, chants, songs, and support groups in religious settings, was found to be beneficial as nurses perceived it as a way to connect with their spirituality, aiding them psychologically in coping with burnout (Zulfiqar & Rafiq, 2020). These findings suggest that spiritual connections serve as an effective coping mechanism for critical care nurses (Brown et al., 2018, Rushton et al., 2015, Zulfiqar & Rafiq, 2020).

## Conclusion

This review explored the causes, effects, and strategies related to burnout and resilience among critical care nurses. The findings highlight the complex and multifaceted nature of burnout in critical care settings, where high workloads, emotional exhaustion, and organizational factors such as staffing shortages contribute significantly to burnout. The review identified key emotional and interpersonal factors that exacerbate burnout, including moral distress, depersonalization, and reduced personal accomplishment, which ultimately affect both nurses' well-being and the quality of patient care.

Resilience was found to be an effective countermeasure to burnout, with several strategies, such as mindfulness training, physical exercise, and improved team communication, showing promise in mitigating the negative effects of stress. The importance of organizational support, including appropriate staffing ratios and leadership that fosters a supportive work environment, was also underscored as critical to enhancing nurse resilience and preventing burnout.

Future research should focus on identifying more proactive, preventive strategies to address burnout before it manifests and should examine the effectiveness of various resilience-building interventions across different healthcare settings. Additionally, more emphasis should be placed on the collective responsibility of organizations and healthcare teams to support critical care nurses in managing stress and maintaining professional well-being.

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