



# Posttraumatic Stress Disorder, Depression, Anxiety, And Burnout Among ICU Healthcare Professionals In Conflict-Affected Cameroon

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## Abstract

Healthcare professionals in Intensive Care Units (ICUs) globally face a high risk of Posttraumatic Stress Disorder (PTSD) and comorbid psychological conditions, a crisis exacerbated in resource-constrained and conflict-affected settings. This study aimed to establish the comorbidities associated with PTSD among ICU healthcare professionals in high-stress hospitals in Kumbo, Cameroon. A quantitative, cross-sectional study was conducted with 134 ICU staff (nurses, physicians, auxiliary staff) from two general hospitals, including Saint Elizabeth General Hospital and Banso Baptist Hospital. Participants completed self-administered questionnaires, including the PTSD Checklist for DSM-5 (PCL-5), the Hospital Anxiety and Depression Scale (HADS), and the Maslach Burnout Inventory (MBI). Data were analyzed using descriptive statistics and chi-square tests of independence. The results revealed a near-universal prevalence of probable PTSD (94.8%), accompanied by high rates of probable depression (82.8%), probable anxiety (85.1%), and burnout risk or diagnosis (86.6%). However, statistical analyses found no significant associations between PTSD status and depression ( $\chi^2(1)=1.53$ ,  $p=.216$ ,  $\phi=.11$ ), anxiety ( $\chi^2(1)=1.08$ ,  $p=.298$ ,  $\phi=.09$ ), or burnout ( $\chi^2(2)=0.47$ ,

$p=.791$ , Cramér's  $V=.06$ ). The lack of significant association indicates that these conditions form a pervasive syndemic of distress affecting the entire workforce uniformly, rather than impacting a subset of individuals. The conclusion is that the extreme context creates a universal psychological burden, necessitating a paradigm shift from individual-focused interventions to systemic, organization-wide reforms to address the root causes of this occupational health crisis.

**Keywords:** Posttraumatic Stress Disorder, comorbidities, healthcare workers, intensive care unit, burnout, depression, anxiety, Cameroon.

## Introduction

Posttraumatic Stress Disorder (PTSD) among healthcare professionals represents a critical and pervasive occupational health crisis, with those working in Intensive Care Units (ICUs) being at disproportionately high risk. The ICU environment is characterized by a relentless exposure to life-and-death decisions, profound human suffering, and ethical challenges, creating a perfect storm of psychological stressors (Hamed et al., 2020). Globally, systematic reviews and meta-analyses confirm that the prevalence of PTSD among healthcare workers during crises like the COVID-19 pandemic ranges significantly, with estimates between 13% and 36%, and ICU staff consistently report some of the highest rates (Sahebi et al., 2021; Andhavarapu et al., 2022; Serrano-Ripoll et al., 2020). This psychological burden is profoundly compounded by the presence of comorbid mental health conditions, which are the rule rather than the exception.

A complex syndemic relationship exists between PTSD, depression, anxiety, and burnout, creating a clinical picture where each condition exacerbates the others, leading to severe functional impairment (Abdelbaky & Eldelpshany, 2024; Roger et al., 2024). International studies, such as those conducted in France and Norway, reveal that ICU professionals frequently present with overlapping symptoms, where emotional exhaustion and depersonalization—core components of burnout—are strongly correlated with, and often predictive of, PTSD symptomatology (Laurent et al., 2021; Hovland et al., 2023; van Mol et al., 2015). This comorbidity extends to physical health, with sleep disturbances and chronic pain commonly reported, and can precipitate maladaptive coping strategies, including substance use, as a means to manage the unrelenting distress (Abdelbaky & Eldelpshany, 2024; Deltour et al., 2023).

Within the African regional context, the narrative of PTSD comorbidities retains its global contours but is sharpened by profound systemic and resource challenges. Research from countries like South Africa indicates that healthcare workers experience significant levels of co-occurring depression, anxiety, and PTSD, with factors such as fear of infection and inadequate organizational support being key contributors (Pool et al., 2024; Human et al., 2023). The scarcity of mental health resources across the continent amplifies this burden, as evidenced by wide variations in PTSD prevalence and a stark lack of intervention-focused analyses for vulnerable populations, including healthcare workers (Tesfaye et al., 2024; Ntlantsana et al., 2021). This indicates a context where the intensity of traumatic exposure and the absence of robust support systems directly influence the severity and complexity of comorbid presentations.

At the local level, the situation for ICU healthcare professionals in Cameroon is likely more acute, though empirical data is severely lacking. The Cameroonian healthcare system, particularly in regions affected by protracted sociopolitical instability and conflict, operates under extreme duress. Reports detail the extensive targeting of healthcare infrastructure, with professionals facing compounded stressors from insecurity, resource constraints, and direct exposure to violence (OCHA, 2024; Niba et al., 2022). Preliminary evidence from broader studies on Cameroonian populations reveals a high prevalence of psychiatric comorbidity, such as co-occurring depression, anxiety, and PTSD among individuals managing multiple stressors in settings like HIV care and conflict zones (Parcesepe et al., 2022). These conditions are exacerbated by systemic barriers like social instability and a critical lack of access to psychological support. However, a definitive knowledge gap persists: no study has specifically investigated the complex network of comorbidities associated with PTSD among ICU professionals in Cameroon's high-level hospitals. This lack of localized, granular data impedes the development of effective, context-sensitive mental health interventions for this indispensable yet vulnerable subgroup of the healthcare workforce.

The global perspective on comorbidities is further illuminated by complementary theoretical frameworks that explain the etiology and maintenance of these intertwined conditions. The Vicarious Trauma Theory

(Figley, 1995) provides the foundational context, describing how the cumulative, secondary exposure to patient suffering and trauma inherent in ICU work can fundamentally alter a healthcare professional's cognitive schemas and worldview, eroding their sense of safety and compassion. These external stressors are processed internally, as explained by the Adaptive Information Processing (AIP) model (Shapiro, 2014), which posits that such unprocessed traumatic memories become stored in isolated, maladaptive neural networks. This dysfunctional storage is the core mechanism of PTSD itself, but it also generates the negative cognitive schemas about the self, others, and the world that are hallmark features of comorbid depression and anxiety.

The constant pressure of this cycle is ultimately managed (or not) through the lens of the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984). This model elucidates how the relentless, overwhelming demands of the ICU environment continually deplete an individual's finite coping resources. When appraised as exceeding one's capacity to cope, this stress leads to the emotional exhaustion central to burnout and motivates maladaptive coping strategies, such as substance use. Together, these models suggest that PTSD and its comorbidities are not coincidental but are intrinsically linked phenomena, originating from external occupational exposure, mediated by internal neurocognitive mechanisms, and perpetuated by the ongoing transaction between the healthcare worker and their high-stress environment.

Therefore, establishing a clear and comprehensive profile of these comorbidities is not merely an academic exercise but a critical public health imperative. Understanding the precise nature, prevalence, and interrelationships of co-occurring conditions is the essential first step in moving beyond treating PTSD in isolation toward designing integrated, holistic support systems. By addressing the entire spectrum of psychological distress, interventions can be more effectively tailored to break the vicious cycle of comorbidity and build resilience. Consequently, the present study aims to address this salient gap by establishing the comorbidities associated with PTSD among ICU healthcare professionals in selected general hospitals in Kumbo, Bui Division, Cameroon. The findings will provide a foundational evidence base crucial for informing the development of targeted mental health

strategies to mitigate the compounded psychological toll on those who provide critical care in one of the most challenging contexts.

## Methods

### Research Design and Rationale

This study employed a quantitative, analytical cross-sectional design to investigate the prevalence of PTSD and its associated comorbidities of depression, anxiety, and burnout among healthcare professionals working in ICUs. This design was selected because it facilitates the measurement of both the outcomes (PTSD, depression, anxiety, burnout) and the characteristics of the participants at a single point in time, allowing for the analysis of associations and relationships between them without any manipulation of variables (Creswell & Creswell, 2018). An analytical approach, as opposed to a purely descriptive one, was necessary to test the hypothesis that PTSD status would be significantly associated with higher rates of comorbid psychological conditions within this population.

### Participants

The study participants comprised 134 ICU healthcare professionals recruited from two level five general hospitals—Saint Elizabeth General Hospital and Bango Baptist Hospital—in the Bui Division of Cameroon, a region characterized by significant socio-political instability, armed conflict, and resource constraints (Niba et al., 2022; OCHA, 2024). These hospitals were selected purposively as they are major referral centers operating in a war-torn zone where ICU professionals are frontline workers with high rates of exposure to traumatic events, and they possess similar advanced ICU equipment and working conditions.

The sample included nurses (n=88, 65.7%), physicians (n=20, 14.9%), and auxiliary support staff (n=26, 19.4%) to ensure representation across the core professional roles within an ICU workforce. They were obtained from a total population of 200 eligible ICU staff across both hospitals, which included 103 staff (15 physicians, 68 nurses, and 20 auxiliary staff) from the Saint Elizabeth General Hospital and 97 staff (13 physicians, 65 nurses, and 19 auxiliary staff) from Bango Baptist Hospital. Their recruitment occurred through a stratified random sampling technique to guarantee proportional representation from each professional category (Taherdoost, 2016). This resulted in the recruitment of 67 participants from each hospital, including 44 nurses,

10 physicians, and 13 auxiliary staff. The final sample size of 134 was determined using Cochran's (1977) formula for a finite population, calculated for a 95% confidence level ( $Z = 1.96$ ), a 5% margin of error, and an expected PTSD prevalence of 50% to ensure maximum variability, resulting in a robust and representative sample for statistically reliable results (Israel, 1992).

Inclusion criteria required participants to be currently employed in the ICU of the selected hospitals, to have held their position for a minimum of six months to ensure adequate exposure to the ICU environment, and to work exclusively at one facility to maintain homogeneity in workplace stressors. Potential participants were excluded if they were on extended leave, currently undergoing treatment for a psychological disorder, or working locum shifts at other hospitals, as these factors were deemed potential confounders. The final sample size of 134 was determined to be sufficient for robust analysis based on a power calculation for a finite population, ensuring the results would be both representative and statistically reliable (Cochran, 1977; Israel, 1992).

### Measures and Materials

Data were collected using a structured, self-administered questionnaire containing three validated psychometric instruments. PTSD symptomatology was measured using the PTSD Checklist for DSM-5 (PCL-5). This 20-item instrument requires respondents to indicate how much they have been bothered by each DSM-5 PTSD symptom in the past month on a 5-point Likert scale ranging from 0 (Not at all) to 4 (Extremely). A sample item includes: "Feeling very upset when something reminded you of the stressful experience?" The total score ranges from 0 to 80, with a well-validated clinical cut-off score of  $\geq 33$  indicating probable PTSD (Blevins et al., 2015; Weathers et al., 2013). The PCL-5 has demonstrated excellent internal consistency, with Cronbach's alpha values consistently exceeding 0.90 in diverse populations.

Comorbid conditions were assessed using two established tools. The Hospital Anxiety and Depression Scale (HADS) was used to evaluate symptoms of anxiety and depression. This 14-item scale is divided into two 7-item subscales (HADS-Anxiety and HADS-Depression). Participants rate the frequency of symptoms over the past week on a 4-point scale. A sample item from the anxiety subscale is: "Worrying thoughts go through my mind." A subscale score of  $\geq 8$  on either HADS-A or

HADS-D indicates a probable case, a threshold with demonstrated validity in clinical and research settings, including in African populations (Zigmond & Snaith, 1983).

The Maslach Burnout Inventory (MBI) was utilized to measure burnout syndrome across its three classic dimensions: emotional exhaustion, depersonalization, and personal accomplishment. The 22-item instrument asks respondents to rate the frequency of feelings related to burnout on a 7-point scale from 0 (Never) to 6 (Every day). A sample item from the emotional exhaustion subscale is: "I feel frustrated by my work." Established scoring guidelines and thresholds for each subscale were used to categorize participants into 'burnout,' 'at risk,' or 'no burnout' categories (Maslach et al., 1996). The MBI is considered the gold standard for burnout assessment and has shown strong psychometric properties globally.

### Procedure

Following approval from the Daystar University Institutional Scientific and Ethics Review Committee (DU-ISERC) and the Regional Delegate of Public Health for the Northwest Region of Cameroon, administrative permission was secured from the participating hospitals through the hospital administration. Potential participants were identified and approached through ICU department managers to maintain organizational protocol. Those who expressed interest were provided with a detailed information sheet explaining the study's purpose, procedures, potential risks, and benefits, emphasizing the voluntary and confidential nature of participation. Written informed consent was obtained from all participants prior to data collection.

Data collection occurred online using a structured, self-administered questionnaire created and distributed through Google Forms. To facilitate recruitment and access, dedicated WhatsApp groups were established for the targeted ICU staff at each participating hospital. A link to the digital questionnaire was shared within these groups. Participants accessed the form anonymously through the link at their convenience, completed it, and submitted their responses electronically. This method ensured efficient data collection while maintaining confidentiality and allowing participation from various shifts. All responses were anonymized automatically within the platform, and data were downloaded and stored on a password-protected, encrypted server to protect participant privacy before

analysis. A research assistant was available digitally through the WhatsApp group and physically at each hospital site to answer any questions participants had while completing the form.

### Ethical Considerations

The design and implementation of this study were guided by the core ethical principles of respect for persons, beneficence, and justice as outlined in the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). Informed consent was a foundational pillar of this ethical framework. The consent process was designed to be thorough and transparent, in line with established guidelines for ethical research (World Medical Association [WMA], 2013), ensuring participants fully understood the study's objectives, the nature of the questions, potential risks—including possible emotional distress when recalling traumatic events—and benefits, such as contributing to knowledge that could improve support for healthcare workers. It was explicitly stated that participation was entirely voluntary and that they could withdraw at any time without any penalty or impact on their employment, a critical aspect of ethical research practice (Resnik, 2020; American Psychological Association [APA], 2017).

Confidentiality and anonymity were stringently upheld throughout the research process, a necessary measure when researching sensitive topics (Sieber, 1992). No personally identifiable information such as names and employee IDs was collected on the research instruments. Instead, all data were labeled with a unique, non-identifiable code. The master list linking codes to names was stored separately in a password-protected file, accessible only to the principal investigator. All physical data were stored in a locked cabinet, and all electronic data were stored on encrypted, password-protected servers, adhering to established standards for data security (Harriss et al., 2019; National Institutes of Health, 2003). Furthermore, in any publication or dissemination of the findings, results were only reported in an aggregated format to ensure no individual could be identified.

The principle of beneficence was adhered to by minimizing potential harm and maximizing benefits. Although the questionnaires involved sensitive topics, the instruments are standard and non-invasive. However, to proactively mitigate the risk of

psychological distress, the researcher conducting the sessions was trained to be alert to signs of discomfort. A clear debriefing and referral protocol was established in collaboration with the hospital administrations, consistent with recommendations for protecting participant welfare (Jorm et al., 2007). Participants who experienced distress or whose responses indicated severe psychological symptoms were to be provided with information and a direct referral pathway to available counseling and psychological support services within the healthcare system, a necessary safeguard in studies of this nature (Resnik, 2020).

Finally, justice was observed by ensuring equitable selection of participants. The sampling strategy was designed to be inclusive and non-discriminatory, offering an equal opportunity for all eligible ICU staff across all professional roles to participate. This approach ensured the study's findings would be representative of the entire target population and that the benefits and burdens of research were fairly distributed (Resnik, 2020; Mertens & Ginsberg, 2009), preventing the systematic selection of vulnerable or disadvantaged groups.

### Data Analysis Plan

All statistical analyses were conducted using IBM SPSS Statistics (Version 26). Descriptive statistics (frequencies and percentages) were first computed to determine the prevalence of probable PTSD, depression, anxiety, and burnout within the sample. The primary analytical procedure involved testing the associations between PTSD status (dichotomized using the PCL-5 cut-off of  $\geq 33$ ) and each comorbid condition. Depression and anxiety status from the HADS were also dichotomized (using the cut-off of  $\geq 8$ ), while burnout was treated as a three-level categorical variable.

A series of Pearson's chi-square ( $\chi^2$ ) tests of independence were performed to evaluate these associations. Given the anticipated small cell counts in the non-PTSD group, Fisher's Exact test was employed where necessary to ensure robust results when the assumptions of the chi-square test were violated (Agresti, 2007). The strength of any observed associations was quantified using effect size measures: Phi ( $\phi$ ) coefficient for 2x2 tables and Cramér's V for larger tables, interpreted according to conventional guidelines (0.10 = small, 0.30 = medium, 0.50 = large) (Cohen, 1988). The alpha level for determining statistical significance was set a priori at  $p < .05$ .

**Results**

The analysis of prevalence for the key psychological conditions revealed an exceptionally high burden of symptomatology within the sample. The results, detailed in Table 1, showed that 127 participants (94.8%) met the criteria for probable PTSD. The

prevalence of comorbid conditions was also substantial, with 111 participants (82.8%) screening positive for probable depression and 114 (85.1%) for probable anxiety. Regarding burnout, the vast majority of the sample (108 participants, 80.6%) were classified as 'at risk,' while a further 8 (6.0%) met the full criteria for burnout.

**Table 1**  
**Prevalence of Probable PTSD and Comorbid Conditions**

Condition	Category	n	%
PTSD (PCL-5)	Unlikely ( $\leq 32$ )	7	5.2
	Probable ( $\geq 33$ )	127	94.8
Depression (HADS-D)	Absent ( $\leq 7$ )	23	17.2
	Probable ( $\geq 8$ )	111	82.8
Anxiety (HADS-A)	Absent ( $\leq 7$ )	20	14.9
	Probable ( $\geq 8$ )	114	85.1
Burnout (MBI)	No Burnout	18	13.4
	At Risk	108	80.6
	Burnout	8	6.0

**N = 134.**

A series of Pearson's chi-square tests of independence were performed to evaluate the associations between PTSD status (case/non-case) and each comorbid condition. The results are summarized in Table 2. None of these relationships were statistically significant. The association between PTSD status and depression status yielded  $\chi^2(1, N = 134) = 1.53, p = .216$ , with a small effect

size ( $\phi = .11$ ). Similarly, the association with anxiety status was non-significant,  $\chi^2(1, N = 134) = 1.08, p = .298, \phi = .09$ . When examining burnout as a three-level categorical variable, the analysis also revealed no significant association with PTSD status,  $\chi^2(2, N = 134) = 0.47, p = .791, \text{Cramér's } V = .06$ .

**Table 2**  
**Associations Between PTSD Status and Comorbid Conditions**

Comorbid Condition	$\chi^2$	df	p-value	Effect Size
Depression (HADS-D $\geq 8$ )	1.53	1	.216	$\phi = .11$
Anxiety (HADS-A $\geq 8$ )	1.08	1	.298	$\phi = .09$
Burnout Category (MBI)	0.47	2	.791	Cramér's V = .06

The finding of no significant statistical associations, despite the high prevalence of all conditions, is a function of the data distribution. The near-universal presence of probable PTSD (94.8%) and the very high rates of depression and anxiety created a ceiling effect. This resulted in a highly uniform distribution of comorbidities across both PTSD cases and the very small number of non-cases, making it statistically improbable to detect a significant difference between the groups. The lack of association, therefore, indicates that these conditions were so pervasive in this specific sample that they did not differentiate those with and without PTSD.

This study sought to establish the comorbidities associated with PTSD among ICU healthcare professionals in a high-stress, resource-constrained setting. The results paint a picture of a workforce under severe psychological distress. The key finding is the near-universal prevalence of probable PTSD, affecting 94.8% of the participants. This profound level of trauma symptomatology was accompanied by extremely high rates of comorbid conditions: 82.8% for probable depression, 85.1% for probable anxiety, and 86.6% for being either at risk of or experiencing full burnout. A central and unexpected outcome of the primary analysis was that formal statistical tests revealed no significant associations between PTSD status and any of these comorbidities. This indicates that depression, anxiety,

**Discussion**

**Summary of Key Findings**

and burnout were so pervasive across the entire sample that they were not unique to those meeting the threshold for PTSD.

#### Interpretation and Comparison with Literature

The prevalence of probable PTSD observed in this study (94.8%) is strikingly higher than almost every empirical estimate reported in the global literature. Large meta-analyses, such as those by Andhavarapu et al. (2022) and Sahebi et al. (2021), have reported pooled PTSD prevalence rates among healthcare workers that cluster significantly lower, typically between the teens and low thirties. Similarly, multinational ICU studies, including one by Roger et al. (2024) which reported an overall prevalence of 16.8%, document figures that are a fraction of the rate found in this Cameroonian cohort. This stark divergence suggests that the context of this study—characterized by the intersection of a high-acuity ICU environment, systemic resource constraints, and regional sociopolitical instability—creates a uniquely toxic and pervasive stressor that elevates psychological distress to near-universal levels, far surpassing the rates seen in more stable or resourced environments.

When compared to regional evidence within sub-Saharan Africa, the prevalence remains an outlier. Studies from Uganda, South Africa, and Ethiopia, while reporting elevated rates that acknowledge the additional burdens faced in low-resource settings, still document prevalences that are less than half of the 94.8% found here. For instance, Mbazzi et al. (2021) reported a PTSD prevalence of 28.4% among Ugandan healthcare workers. This suggests that while systemic challenges are a recognized amplifier of trauma risk across the continent, the specific conditions in this particular setting—potentially the intensity of the conflict exposure and the specific ethical strains of ICU work in this context—have created an environment of exceptional psychological burden.

The finding of no significant association between PTSD and its comorbidities, despite their overwhelming prevalence, is a critical result. It aligns with the interpretation that the entire workforce is operating under a shared, overwhelming burden. The environmental stressors are so potent and uniform that they precipitate a generalized psychological crisis, making the entire cohort vulnerable to a cluster of interrelated conditions simultaneously. This pervasive comorbidity supports the literature suggesting that in extreme settings, PTSD, depression, anxiety, and

burnout are not distinct entities but part of a shared syndemic of distress (Carmassi et al., 2022; van Mol et al., 2015). In such a context, traditional analyses that seek to differentiate between groups based on a single disorder are less meaningful because the distress is a near-universal experience, not a condition affecting a subset of individuals.

#### Theoretical Implications

The findings strongly support the study's guiding theoretical frameworks. The AIP model (Shapiro, 2017) posits that trauma results from maladaptively stored memories. The ubiquity of PTSD symptoms suggests that the constant, high-intensity trauma exposure in this ICU environment overwhelms the cognitive capacity for adaptive processing in virtually all staff, leading to a near-uniform failure to integrate traumatic experiences. Similarly, Vicarious Trauma Theory (McCann & Pearlman, 1990) anticipates that sustained empathic engagement with patient suffering would have cumulative and widespread psychological costs, which is precisely what the high rates of comorbidity demonstrate. The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) is also affirmed; the results indicate that the primary and secondary appraisals of nearly all ICU professionals are that their environmental demands chronically and vastly exceed their coping resources, resulting in the observed uniform negative outcomes.

#### Practical Implications and Recommendations

The practical implications of these findings are profound and urgent. The near-universal levels of distress necessitate a shift from targeted interventions for a few affected individuals to organization-wide, systemic public health approaches aimed at the entire workforce. Firstly, routine, mandatory psychological screening using validated tools like the PCL-5 and HADS must be integrated into occupational health protocols to monitor the collective mental health of ICU staff continuously. Secondly, intervention strategies must be designed to address the syndemic nature of the distress. This requires implementing integrated support systems that concurrently address PTSD, depression, anxiety, and burnout, rather than siloed programs. Finally, and most critically, policy makers and hospital administrators must recognize that this level of psychological injury is a direct result of systemic and environmental failures. Investment must therefore be directed toward structural interventions that reduce the

root causes of this distress, such as ensuring adequate staffing ratios, providing structured ethical debriefing sessions, guaranteeing access to necessary medical resources, and fostering a leadership culture that explicitly prioritizes and protects staff psychological safety.

### Limitations

Four limitations must be considered when interpreting these findings. The use of a cross-sectional design, while suitable for establishing prevalence, precludes any determination of causality between the workplace environment and the psychological outcomes. The reliance on self-report measures, though standard, introduces the potential for reporting biases. Furthermore, the study was conducted in a specific, highly traumatized context within two hospitals, which limits the generalizability of the astounding prevalence rates to other, less extreme settings. However, the findings remain highly relevant for other ICU environments facing similar compounded stressors of resource scarcity and high acuity. Finally, the very high prevalence itself created a statistical limitation, as the extremely small number of participants without PTSD limited the power to detect associations in the chi-square analyses.

### Directions for Future Research

Future research must build upon these findings to develop effective responses. A critical next step is a longitudinal cohort study to track the trajectory of these symptoms over time and identify resilience and risk factors within this high-risk population. Secondly, there is an urgent need for interventional research that develops and tests the efficacy of system-level, multi-component support programs specifically designed for such resource-constrained, high-stress environments. These programs could combine trauma-informed organizational policies with accessible, group-based therapeutic interventions. Finally, employing mixed-methods research that integrates these quantitative findings with in-depth qualitative interviews would be invaluable. Such an approach would provide rich, nuanced data on the lived experiences of these healthcare workers, uncovering the specific contextual triggers and cultural factors that mediate the impact of trauma and could inform more culturally and contextually adapted interventions.

### Conclusion

This study provides a stark and unequivocal quantification of the profound psychological burden carried by ICU healthcare professionals working in a resource-constrained, conflict-affected setting. The investigation conclusively demonstrates that posttraumatic stress disorder is not a condition affecting a vulnerable minority but a near-universal experience, with a prevalence of 94.8% that far exceeds global and regional estimates. Furthermore, this extreme prevalence of PTSD is embedded within a broader syndemic of psychological distress, characterized by similarly alarming rates of depression (82.8%), anxiety (85.1%), and burnout (86.6%). The primary finding—that there was no significant statistical association between PTSD and these comorbidities—is itself a critical result. It powerfully illustrates that the entire workforce is engulfed in a shared, overwhelming psychological crisis where these conditions are not distinct ailments but interrelated manifestations of a broken system. The environmental stressors, comprising relentless trauma exposure, systemic resource scarcity, and profound ethical dilemmas, are so potent and uniform that they have effectively homogenized the experience of severe psychological distress across all demographic and professional categories.

The contribution of this research is therefore twofold. Empirically, it delivers a urgent and context-specific evidence base that documents a state of emergency for frontline healthcare workers in a way that prior, more generalized studies have not. Theoretically, it validates the application of the AIP model, Vicarious Trauma Theory, and the Transactional Model of Stress and Coping to such extreme settings, demonstrating their power to explain how chronic, overwhelming stress leads to a predictable and pervasive pattern of maladaptive psychological outcomes. In practical terms, these findings sound a clarion call for an immediate paradigm shift in how we support such frontline workers. The response must move beyond individual-level, symptom-focused interventions and toward radical, system-wide reforms that directly address the root causes of this distress. The psychological well-being of the healthcare workforce is not merely an occupational health concern but a fundamental prerequisite for a functional, resilient, and equitable healthcare system. The preservation of this workforce demands nothing less than a committed, systemic, and ethically mandated response from institutional leaders and policymakers.

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