Examining the Relationship Between Workplace Violence and Mental Health Among Emergency Nurses

Brian Butler, Brianna Ramirez, Brooke Stewart

1 Introduction

Workplace violence represents a significant occupational hazard for healthcare professionals, with emergency department nurses experiencing particularly high rates of exposure to various forms of aggression. The existing literature has established correlations between workplace violence and negative mental health outcomes, yet the precise mechanisms, temporal dynamics, and moderating factors remain inadequately understood. Traditional research approaches have relied heavily on retrospective self-report measures, which are subject to recall bias and fail to capture the immediate psychological and physiological responses to violent incidents. This study addresses these methodological limitations through an innovative ecological momentary assessment framework that captures real-time data on violence exposure and mental health indicators.

The emergency department environment presents unique challenges for nursing staff, characterized by high-stakes decision-making, unpredictable patient populations, and frequent exposure to traumatic events. Within this context, workplace violence manifests in multiple forms, ranging from verbal abuse and threats to physical assaults. Previous research has typically treated workplace violence as a unitary construct or employed broad categorizations that may obscure important distinctions in how different types of violence impact mental health. Our study advances this field by examining violence exposure as a

multidimensional phenomenon with distinct trajectories and cumulative effects.

This research is guided by three primary questions: First, how do different types and frequencies of workplace violence exposure relate to specific mental health outcomes among emergency nurses? Second, what are the immediate physiological and psychological responses to violent incidents, and how do these responses evolve over time? Third, what organizational and individual factors moderate the relationship between workplace violence exposure and mental health outcomes? By addressing these questions through a novel methodological approach, this study provides unprecedented insight into the psychological toll of violence in emergency healthcare settings.

2 Methodology

2.1 Participants and Setting

We employed a prospective longitudinal design with a sample of 247 emergency nurses recruited from six metropolitan hospitals across different geographic regions. Participants represented diverse demographic characteristics, with a mean age of 34.7 years (SD = 8.2) and an average of 7.3 years (SD = 5.1) of emergency nursing experience. The sample included 72% female and 28% male participants, reflecting the gender distribution typical in emergency nursing. Inclusion criteria required participants to work at least 24 hours per week in emergency department settings and to have been employed in their current position for a minimum of six months.

2.2 Measures and Instruments

Our methodological innovation centered on the implementation of ecological momentary assessment (EMA) through smartphone applications that prompted participants to complete brief surveys at random intervals during their shifts and immediately following any violent incidents. These surveys assessed current emotional states, perceived stress, and

coping strategies using validated scales adapted for momentary assessment. Additionally, participants wore physiological monitoring devices that continuously measured heart rate variability, skin conductance, and cortisol levels through non-invasive sensors.

Workplace violence exposure was documented using a newly developed incident reporting system that categorized events into three distinct types: verbal aggression (including shouting, swearing, and verbal threats), physical threats (menacing behavior without physical contact), and physical assaults (any form of physical contact with intent to harm). Each incident was characterized by multiple parameters including duration, intensity, context, and the nurse's perceived threat level.

Mental health outcomes were assessed through both momentary measures and traditional standardized instruments administered at baseline, three months, and six months. These included the PTSD Checklist for DSM-5, Hospital Anxiety and Depression Scale, Maslach Burnout Inventory, and a novel measure of occupational trauma symptoms specifically developed for healthcare settings.

2.3 Data Analysis

We employed multilevel modeling to account for the nested structure of our data (multiple observations within individuals within hospitals). Growth mixture modeling identified distinct trajectories of violence exposure and mental health outcomes over time. Time-lagged analyses examined the temporal relationships between violent incidents and subsequent psychological states. Moderator analyses investigated the protective effects of organizational support, coworker cohesion, and individual resilience factors.

3 Results

Our findings revealed several unexpected patterns in the relationship between workplace violence and mental health outcomes. First, we identified distinct violence exposure tra-

jectories among emergency nurses, with approximately 22% of participants experiencing chronic high-frequency exposure, 45% showing moderate but increasing exposure, and 33% demonstrating low but episodic exposure patterns. These trajectories were not predicted by demographic factors or years of experience, suggesting the influence of workplace-specific factors and potentially individual vulnerability characteristics.

The relationship between violence frequency and mental health outcomes demonstrated significant non-linearity. While low levels of violence exposure showed minimal impact on mental health indicators, we identified critical thresholds beyond which psychological symptoms increased dramatically. For verbal aggression, this threshold occurred at approximately 5-7 incidents per week, while for physical threats, the threshold was much lower at 1-2 incidents per week. Physical assaults, though less frequent, produced immediate and severe psychological consequences regardless of frequency.

Physiological monitoring revealed distinctive stress response patterns associated with different types of violence. Verbal aggression typically produced transient increases in heart rate and cortisol that returned to baseline within 30-60 minutes. Physical threats elicited more prolonged physiological arousal, with cortisol levels remaining elevated for several hours. Physical assaults produced the most severe and enduring physiological responses, with altered heart rate variability patterns persisting for up to 24 hours post-incident.

Moderator analyses identified several protective factors that buffered the mental health impact of workplace violence. Strong peer support networks emerged as the most significant protective factor, reducing the likelihood of PTSD symptoms by 62% even among nurses with high violence exposure. Organizational policies that provided immediate debriefing following violent incidents and clear procedural responses also demonstrated protective effects. Individual resilience factors, particularly emotion regulation skills and realistic optimism, moderated the relationship between violence exposure and anxiety symptoms.

Unexpectedly, we found that the cumulative effect of lower-intensity verbal aggression exceeded the impact of isolated physical threats when frequency exceeded critical thresholds.

Nurses experiencing high-frequency verbal aggression showed comparable levels of emotional exhaustion and depersonalization to those experiencing occasional physical threats, challenging conventional assumptions about the relative severity of different violence types.

4 Conclusion

This study makes several original contributions to understanding the relationship between workplace violence and mental health among emergency nurses. Methodologically, our ecological momentary assessment approach provides unprecedented granularity in capturing the immediate and cumulative effects of violence exposure. The integration of physiological monitoring with psychological assessment offers a more comprehensive understanding of the stress response mechanisms underlying this relationship.

Theoretically, our findings challenge linear models of trauma exposure by demonstrating critical thresholds and non-linear relationships between violence frequency and mental health outcomes. The concept of violence exposure trajectories provides a more nuanced framework for understanding how patterns of exposure, rather than simply cumulative frequency, influence psychological wellbeing. Our identification of distinct physiological signatures associated with different violence types advances understanding of the biological mechanisms linking workplace trauma to mental health disorders.

Practically, this research identifies specific protective factors that healthcare organizations can cultivate to mitigate the mental health consequences of workplace violence. The strong protective effect of peer support networks suggests that interventions focused on strengthening team cohesion may be particularly effective. The identification of critical thresholds for different violence types provides evidence-based targets for intervention prioritization.

Several limitations warrant consideration. The sample, while diverse, was limited to metropolitan emergency departments, and findings may not generalize to rural or specialized settings. The intensive assessment methodology, while providing rich data, may have

influenced participants' awareness and reporting of violent incidents. Future research should examine the long-term career implications of violence exposure and evaluate the effectiveness of targeted interventions based on these findings.

In conclusion, this study demonstrates that the relationship between workplace violence and mental health among emergency nurses is more complex and nuanced than previously recognized. By employing innovative methodological approaches and examining this relationship through multiple lenses, we have identified critical patterns, thresholds, and protective factors that inform both theoretical understanding and practical interventions. The findings underscore the urgent need for comprehensive violence prevention and mental health support strategies in emergency healthcare settings.

References

American Nurses Association. (2022). Workplace violence prevention standards for healthcare organizations. Journal of Nursing Regulation, 13(2), 45-52.

Brophy, J. T., Keith, M. M., Hurley, M. (2023). Trauma-exposed healthcare workers: Psychological sequelae of workplace violence. Journal of Occupational Health Psychology, 28(1), 78-91.

Chen, W. C., Hsu, W. Y., Lin, Y. J. (2022). Ecological momentary assessment in healthcare research: Methodological considerations and applications. Health Psychology Review, 16(3), 345-362.

Gates, D. M., Gillespie, G. L., Succop, P. (2021). Violence against nurses and its impact on stress and productivity. Nursing Economics, 39(2), 59-67.

Hahn, S., Muller, M., Hantikainen, V., Needham, I. (2023). Patient and visitor violence in healthcare settings: A systematic review of risk factors and interventions. Aggression and Violent Behavior, 68, 101-115.

Jackson, D., Hutchinson, M., Peters, K. (2022). Understanding the emotional labor of

nursing work: A mixed-methods study. Journal of Advanced Nursing, 78(4), 1123-1135.

Kowalenko, T., Walters, B. L., Khare, R. K. (2021). Workplace violence in emergency medicine: Current knowledge and future directions. Journal of Emergency Medicine, 61(4), 417-425.

Spector, P. E., Zhou, Z. E., Che, X. X. (2023). Nurse exposure to physical and nonphysical violence, bullying, and sexual harassment: A quantitative review. International Journal of Nursing Studies, 128, 104-118.

Taylor, J. L., Rew, L. (2021). A systematic review of the literature: Workplace violence in the emergency department. Journal of Clinical Nursing, 30(7-8), 885-899.

Wassell, J. T. (2022). Workplace violence intervention effectiveness: A systematic literature review. Safety Science, 145, 105-117.