

## The Relationship Between Workload and Stress Levels Among Filipino Nurses During Disaster Response Operations in Quezon City

Billy Francis F. Asido<sup>1</sup>, Mary Anne E. Lopez<sup>2</sup>

<https://orcid.org/0009-0006-4723-7410><sup>1</sup>, <https://orcid.org/0000-0001-7566-5152><sup>2</sup>

St. Bernadette of Lourdes College.<sup>1,2</sup>

[bfasido@sblc.edu.ph](mailto:bfasido@sblc.edu.ph)<sup>1</sup> [malopez@sblc.edu.ph](mailto:malopez@sblc.edu.ph)<sup>2</sup>

### ABSTRACT

This study examined the relationship between workload and stress levels among Filipino nurses during disaster response operations in Quezon City. Specifically, it determined the extent of workload experienced by nurses, assessed their stress levels, examined the relationship between workload and stress, and identified workload dimensions that significantly influence stress. Using a descriptive-correlational quantitative design, data were collected from 109 Filipino nurses involved in disaster response operations through a validated researcher-made survey questionnaire. Descriptive statistics, Pearson correlation, and multiple regression analyses were employed to analyze the data. Findings revealed that respondents experienced a high extent of workload across patient load ( $M = 4.40$ ), working hours and shift extension ( $M = 4.32$ ), task complexity and role expansion ( $M = 4.33$ ), manpower and staffing support concerns ( $M = 4.18$ ), and availability of medical supplies and resources ( $M = 4.14$ ). Nurses also reported high stress levels in terms of physical stress symptoms ( $M = 4.36$ ), psychological stress symptoms ( $M = 4.24$ ), cognitive stress responses ( $M = 4.27$ ), and emotional responses to disaster-related patient care ( $M = 4.26$ ), while demonstrating strong coping ability ( $M = 4.51$ ). Significant positive relationships were found between all workload dimensions and stress levels, with working hours and shift extension showing the strongest correlation ( $r = 0.727$ ,  $p < .001$ ). Regression analysis identified patient load, working hours and shift extension, and manpower and staffing support as significant predictors of stress. The study was limited to nurses involved in disaster response operations in selected areas of Quezon City. Findings highlight the need for improved workforce planning, adequate staffing, manageable shift schedules, and comprehensive mental health support programs. This study provides localized evidence on disaster-related nursing workload and stress, offering valuable insights for healthcare administrators, disaster management authorities, policymakers, and nursing professionals in strengthening disaster preparedness and nurse welfare.

**Keywords:** *Workload, stress levels, Filipino nurses, disaster response operations, occupational stress, disaster preparedness, workforce management.*

### INTRODUCTION

Disaster response operations place healthcare systems under immense pressure, requiring nurses to perform critical roles in triage, emergency care, patient monitoring, and care coordination under highly demanding conditions. Increased patient influx, limited resources, prolonged working hours, and the need for rapid decision-making significantly elevate nurses' workload and stress levels. Globally, disasters and public health emergencies,

including the COVID-19 pandemic, have highlighted the vulnerability of nurses to excessive workload, burnout, emotional exhaustion, and psychological distress.

### **Statement of the Problem**

Determines the relationship between workload and stress levels among Filipino nurses during disaster response operations. It also identifies key workload dimensions, coping strategies, and implications for better nurse welfare and disaster preparedness

### **Scope and Delimitations**

The study investigates the relationship between workload and stress levels among Filipino nurses engaged in disaster response operations. It focuses on nurses working in hospitals, emergency departments, evacuation centers, and other disaster-related healthcare settings. The study examines demographic characteristics such as age, sex, civil status, years of experience, and area of assignment.

### **Review of Related Literature**

The reviewed literature consistently highlights that disaster response operations place Filipino nurses in highly demanding work environments characterized by increased workload, resource constraints, and elevated stress levels. Studies indicate that disasters such as typhoons, floods, earthquakes, pandemics, and other emergencies significantly increase healthcare demands, resulting in patient surges, longer working hours, and complex clinical responsibilities. In these situations, nurses are expected to provide immediate and continuous care while simultaneously performing administrative, coordination, and logistical tasks. Limited resources, inadequate staffing, and challenging working environments further intensify their workload, making disaster nursing one of the most physically, emotionally, and cognitively demanding areas of healthcare practice.

### **Theoretical Framework**

This study is grounded in the Job Demand–Control–Support Model, the Transactional Model of Stress and Coping, and the Conservation of Resources Theory, which collectively explain how workload influences stress among Filipino nurses during disaster response operations. The Job Demand–Control–Support Model suggests that high job demands, such as increased patient load, long working hours, and complex emergency responsibilities, combined with limited autonomy and inadequate support, determine the relationship between workload and stress levels among Filipino nurses during disaster response operations. It also identifies key workload dimensions, coping strategies, and implications for better nurse welfare and disaster preparedness. The Transactional Model of Stress and Coping explains that stress results from nurses' perceptions of whether disaster-related demands exceed their coping abilities, with effective coping strategies helping to mitigate stress.

## Conceptual Framework



## METHODOLOGY

This study used a non-experimental descriptive–correlational design, selecting respondents via purposive sampling, gathering data with validated surveys, and analyzing results using descriptive statistics and correlation tests to examine existing conditions and variable relationships.

### Research Design

This study uses a descriptive-correlational design to describe respondents and examine the relationship between workload stress and the workload stress relationship among Filipino nurses during disaster response, without variable manipulation.

### Research Steps

This study will be conducted in Quezon City, select eligible nurses via purposive sampling, use a validated survey to gather data, and analyze the workload–stress relationship.

### Data Collection and Sample Selection

Data for this study were collected from 109 Filipino registered nurses who were directly involved in disaster response operations in selected healthcare facilities and emergency deployment areas in Quezon City, including hospitals, emergency departments, disaster response units, and evacuation centers. The respondents were selected using purposive sampling, a non-probability sampling method that enabled the researcher to identify nurses who met the inclusion criteria, particularly those with firsthand experience in managing disaster-related cases and emergency healthcare situations. This sampling approach ensured that the participants possessed the knowledge and experience,

### Data Analysis Methods

The study will employ a quantitative descriptive-correlational research design to examine the relationship between workload and stress levels among Filipino nurses during disaster response operations. Data will be collected from a selected sample of Filipino nurses who have participated in disaster response activities through a structured survey questionnaire utilizing a five-point Likert scale. The respondents will be chosen using an appropriate sampling technique to ensure that those who meet the study criteria are adequately represented.

### **Research Hypotheses and Validation**

This study aimed to determine the relationship between workload and stress levels among Filipino nurses during disaster response operations. Specifically, it sought to assess how the demands and responsibilities associated with disaster response influence the psychological and emotional well-being of nurses. The study hypothesis posited that increased workload significantly affects the stress levels experienced by Filipino nurses during disaster situations.

### **Study Limitations and Ethical Considerations**

The study strictly adhered to established ethical principles throughout the research process. Prior to data collection, informed consent was obtained from all participating Filipino nurses, ensuring that they were fully informed about the purpose, procedures, benefits, and potential risks of the study.

## **RESULTS AND DISCUSSION**

### **Statement of the Problem 1: Demographic Profile of the Respondents**

The findings revealed that most nurse respondents were within the 30 to 49-year-old age group, male, married, had 6 to 10 years of professional nursing experience, and were primarily assigned to the Disaster Response Unit and Emergency Department. These characteristics indicate that disaster response operations are largely carried out by experienced, mid-career nurses who possess the clinical competence, adaptability, and decision-making skills necessary in emergency situations.

### **Statement of the Problem 2: Extent of Workload Experienced by Filipino Nurses During Disaster Response Operations**

The study found that Filipino nurses experienced a very high level of workload during disaster response operations across all workload dimensions, including patient load, working hours and shift extension, task complexity and role expansion, manpower and staffing support, and availability of medical resources.

### **Statement of the Problem 3: Level of Stress Experienced by Filipino Nurses During Disaster Response Operations**

The results demonstrated that nurses experienced high levels of stress during disaster response operations, particularly in terms of physical, psychological, cognitive, and emotional stress symptoms. Physical fatigue and exhaustion emerged as the most prominent manifestations of stress, while anxiety, emotional burden, difficulty concentrating, and compassion fatigue were also commonly experienced by respondents.

### **Statement of the Problem 4: Significant Relationship Between Workload and Stress Levels**

The study confirmed a significant positive relationship between workload and stress levels among Filipino nurses during disaster response operations. All workload dimensions were significantly correlated with stress, indicating that as workload increases, stress levels likewise increase.

### **Statement of the Problem 5: Specific Workload Dimensions that Influence Stress Levels**

The multiple regression analysis revealed that working hours and shift extension, patient load during disaster situations, and availability of manpower and staffing support were the workload dimensions that significantly influenced nurses' stress levels. Among these factors, extended working hours emerged as the strongest predictor of stress, followed by patient load and staffing concerns.

### **Statement of the Problem 6: Implications for Nurse Welfare, Disaster Preparedness, and Workforce Management**

The study highlights the need for healthcare institutions to strengthen nurse welfare programs, disaster preparedness initiatives, and workforce management systems. Given the high levels of workload and stress experienced by nurses during disasters, hospitals should implement comprehensive wellness programs, psychological support services, stress management interventions, and resilience-building activities.

### **Conclusion**

Based on the findings of the study, Filipino nurses involved in disaster response operations experience substantial workload and elevated stress levels due to the demanding nature of emergency healthcare services. The respondents, who were predominantly experienced and frontline nurses, reported high workload levels in terms of patient load, extended working hours, task complexity, staffing challenges, and resource-related concerns, with patient load and prolonged work hours emerging as the most significant contributors to occupational burden.

### **RECOMMENDATIONS**

Based on the study findings, it is recommended that healthcare institutions, hospital administrators, and disaster management agencies implement comprehensive strategies to reduce workload-related stress among Filipino nurses during disaster response operations. Hospitals should prioritize maintaining adequate nurse-to-patient ratios, strengthening emergency staffing mechanisms, limiting excessive overtime, and ensuring sufficient rest periods to minimize fatigue and burnout. Continuous disaster preparedness training, simulation exercises, and professional development programs should also be provided to enhance nurses' competence and confidence in managing complex emergency situations.

### **ACKNOWLEDGMENTS**

The researcher extends sincere gratitude to the Graduate School of St. Bernadette of Lourdes College, the research adviser and oral examination panel, participating health facilities, healthcare professionals, instrument validators, nurse respondents, and the researcher's family for their invaluable support and cooperation throughout this study.

## AI DECLARATION STATEMENT

AI tools were used solely to refine language, condense content, and format the manuscript. No AI system gathered data, created respondent records, conducted statistical analysis, or assumed the researcher's role in verifying the work. The author and research adviser retain full responsibility for the study's content, data accuracy, findings, and compliance with academic standards.

## REFERENCES

- Adams, T. N., Belt, H., Mehta, R. M., Patel, H. J., Ruggiero, R. M., & North, C. S. (2024). Mental health response to disasters in healthcare, including the COVID-19 pandemic. *Emergency Care and Medicine*, 1(3), 240–246. <https://doi.org/10.3390/ecm1030025>
- Adams, T. N., Belt, H., Mehta, R. M., Patel, H. J., Ruggiero, R. M., & North, C. S. (2024). Mental health response to disasters in healthcare, including the COVID-19 pandemic. *Emergency Care and Medicine*, 1(3), 240–246. <https://doi.org/10.3390/ecm1030025>
- Aiken, L. H., Lasater, K. B., Sloane, D. M., & colleagues. (2023). A repeated cross-sectional study of nurses immediately before and during the COVID-19 pandemic: Implications for action. *Journal of Nursing Regulation*, 14(1), 5–17.
- Al Thobaity, A. (2024). Overcoming challenges in nursing disaster preparedness and response: An umbrella review. *BMC Nursing*, 23(1), 562. <https://doi.org/10.1186/s12912-024-02226-y>
- Al Thobaity, A. (2024). Overcoming challenges in nursing disaster preparedness and response: An umbrella review. *BMC Nursing*, 23(1), 56