
Effects of Extended Work Shifts on Patient Safety of Nurses in a Selected Tertiary Government Hospital

CHRISTIAN P. IREMEDIO, RN

<https://orcid.org/0009-0001-9204-9113>

St. Bernadette of Lourdes College (SBLC)

ciremedio@sbhc.edu.ph

ABSTRACT

Extended work shifts have become increasingly common in tertiary government hospitals due to staffing shortages and high patient census. This study aimed to determine the effects of extended work shifts on patient safety among nurses in a selected tertiary government hospital, considering demographic characteristics as moderating variables. A quantitative descriptive correlational design was employed, involving 130 registered nurses selected through simple random sampling. Data were collected using a validated, researcher-developed survey questionnaire measuring the demographic profile, the length and frequency of extended shifts, and patient safety indicators. Descriptive statistics, Spearman's rank-order correlation, and Kruskal–Wallis H test were utilized for data analysis. Findings revealed that the majority of nurses worked shifts exceeding 12 hours, with many rendering extended shifts daily. Although nurses generally agreed that patient safety was maintained, fatigue-related factors such as reduced concentration and communication challenges were reported. A weak but statistically significant negative correlation was found between extended work shifts and patient safety. Age and years of nursing experience significantly influenced patient safety outcomes. The study concludes that prolonged and frequent shifts may subtly compromise patient safety and recommends optimized scheduling and fatigue management strategies to enhance nurse well-being and healthcare quality.

Keywords: Age, extended work shifts, nurse fatigue, nursing experience, patient safety, tertiary government hospital

INTRODUCTION

Nursing is considered one of the most demanding professions in the healthcare system due to the complexity of patient care, high cognitive workload, and continuous exposure to life-threatening situations. To address staffing shortages and rising patient admissions, many hospitals, especially tertiary and government facilities, implement extended nursing shifts. Extended shifts generally refer to duty hours that exceed the traditional 8-hour schedule, often extending to 10–12 hours or longer, and are commonly accompanied by mandatory or voluntary overtime (Zhao et al., 2023).

Statement of the Problem

This study aimed to determine the effects of extended work shifts on nurses' patient safety in a selected tertiary government hospital. Specifically, it sought to answer the following

questions: 1. What is the demographic profile of the nurses in terms of: 1.1. Age 1.2. Sex 1.3. Civil status 1.4. Highest educational attainment 1.5. Years of nursing experience

2. What is the extent of extended work shifts among nurses in terms of: 2.1. Length of work shifts 2.2. Frequency of extended work shifts per week

3. What is the level of patient safety among nurses working extended work shifts?

4. Is there a significant effect of extended work shifts on patient safety among nurses when grouped according to their demographic profile (age, sex, civil status, highest educational attainment, and years of nursing experience)?

5. Based on the findings, what recommendations can be made to improve patient safety and nurse well-being in relation to extended work shifts?

Scope and Delimitations

This study focused on the effects of extended work shifts on nurses' patient safety in a selected tertiary government hospital. It will be conducted in the first quarter of the 2026 academic year and will involve 130 nurses who meet the inclusion criteria. Only nurses who have been employed for at least six months, who regularly render extended work shifts, and who voluntarily agree to participate will be included in the study. Nurses who are assigned solely to administrative roles, are on leave, or are temporarily not engaged in direct patient care during the data collection period will be excluded. The study will examine nurses' demographic characteristics, including age, sex, civil status, educational attainment, years of experience, and work unit/department.

REVIEW OF RELATED LITERATURE

This section presents the relevant literature and empirical studies that support the present research. The review is organized according to the variables reflected in the statement of the problem: (1) demographic profile of nurses, (2) extent of extended work shifts, (3) level of patient safety, and (4) effects of extended work shifts on patient safety.

THEORETICAL FRAMEWORK

This study is anchored in the Nursing Fatigue and Patient Safety Theory (Caruso, 2014), which explains that extended work hours and shift patterns influence nurse fatigue, performance, and patient safety. Nurses' ability to provide safe and effective care is affected by both work demands and individual characteristics. This theory supports the first statement of the problem, which seeks to determine the demographic profile of nurses.

CONCEPTUAL FRAMEWORK

The conceptual framework of this study illustrates the relationship between extended work shifts and patient safety among nurses, with nurse demographics acting as moderating

factors. The framework is based on the Nursing Fatigue and Patient Safety Theory (Caruso, 2014), which emphasizes that prolonged and frequent work shifts increase fatigue, thereby compromising nurses' ability to deliver safe and effective patient care.

RESEARCH DESIGN

This study employed a quantitative, descriptive-correlational research design. The descriptive component was used to determine the demographic profile of nurses, the extent of extended work shifts, and the level of patient safety, while the correlational component was utilized to examine the effect of extended work shifts on patient safety when nurses were grouped according to their demographic profile. A descriptive-correlational design was appropriate for this study because it allowed the researcher to describe existing conditions and examine relationships among variables without manipulating them. According to Polit and Beck (2017) and Creswell (2018), this design is suitable for studies that aim to identify associations among variables in natural settings.

Population And Sampling Technique

A simple random sampling technique was used to select the respondents for this study. This method ensured that all eligible nurses had an equal chance of being included, reducing selection bias and increasing the representativeness of the sample, as recommended by Polit and Beck (2017). The study population comprised 195 registered nurses employed at the selected tertiary government hospital. Nurses who had been employed for at least six months and who regularly rendered extended work shifts were considered eligible to participate. These inclusion criteria ensured that the respondents had sufficient work experience and exposure to extended shifts, allowing the researcher to accurately assess the effects of long working hours on patient safety.

Data Collection Procedure

The data collection process began after obtaining approval from the institutional ethics review board and written permission from the administration of the selected tertiary government hospital. Once approval was granted, the researcher coordinated with the chief nurse and unit supervisors to explain the study's purpose, the data collection process, and the expected participation by staff nurses. This coordination ensured proper scheduling and prevented interference with routine nursing duties and patient care services. Eligible participants were identified based on the established inclusion criteria, and the researcher personally approached potential respondents during appropriate times such as shift changes or break periods. Each participant was provided with an informed consent form explaining the study objectives, procedures, voluntary nature of participation, confidentiality measures, and the right to withdraw at any time. Only nurses who voluntarily signed the informed consent form were allowed to participate, ensuring ethical compliance and respect for participants' autonomy. After obtaining consent, the self-administered survey questionnaire was distributed to the participants.

RESEARCH HYPOTHESES AND VALIDATION

Based on the objectives of this study, the following null hypothesis is proposed:

1. There is no significant effect of extended work shifts on the patient safety of nurses when grouped according to their demographic profile (age, sex, civil status, highest educational attainment, and years of nursing experience) in a selected tertiary government hospital.

STUDY LIMITATIONS AND ETHICAL CONSIDERATIONS

This study will focus on the effects of extended work shifts on nurses' patient safety in a selected tertiary government hospital. It will be conducted in the first quarter of the 2026 academic year and will involve 130 nurses who meet the inclusion criteria. Only nurses who have been employed for at least six months, who regularly render extended work shifts, and who voluntarily agree to participate will be included in the study. Nurses who are assigned solely to administrative roles, are on leave, or are temporarily not engaged in direct patient care during the data collection period will be excluded.

RESULTS AND DISCUSSION

The results of the study on the effects of extended work shifts on patient safety among nurses in a selected tertiary government hospital. The findings are organized according to the study objectives, including the demographic profile of nurses, the extent of their extended work shifts, perceptions of patient safety, correlations between work hours and safety, and differences in safety based on demographic characteristics.

CONCLUSIONS

Based on the findings, the following conclusions were drawn: 1. The nursing workforce in the selected hospital is relatively young, moderately experienced, highly educated, and frequently exposed to extended work shifts. 2. Extended work shifts, particularly those exceeding 12 hours and occurring daily, are prevalent and may contribute to fatigue. 3. Nurses generally perceive patient safety to be maintained, though attention, communication, and alertness can be affected by prolonged shifts. 4. Extended work hours show a weak but significant negative correlation with patient safety, highlighting the importance of monitoring shift duration and frequency. 5. Demographic characteristics, specifically age and nursing experience, significantly influence patient safety outcomes, indicating a need for tailored scheduling.

RECOMMENDATIONS

1. Nurses may manage fatigue and stress by taking adequate breaks, staying hydrated, and practicing brief mindfulness or relaxation techniques during long shifts to maintain focus and alertness.
2. Nurses could monitor their own performance by regularly assessing their concentration and alertness levels during extended shifts to reduce the likelihood of errors in patient care.

3. Hospital management may consider optimizing shift schedules by limiting consecutive extended shifts and distributing workloads evenly to help reduce nurse fatigue and support alertness.
4. Addressing extended work shifts may enhance the quality of care, allowing patients to receive more attentive, accurate, and safe nursing services.
5. Researchers might develop interventions using current findings as a foundation to design and test strategies that could improve nurse well-being and patient safety.

ACKNOWLEDGMENT

I would like to begin by thanking Almighty God for His endless blessings, strength, and guidance throughout my studies. Without His grace, this achievement would not have been possible. I am sincerely grateful to my adviser, Dr. Jovencio M. Milan Jr., RM, RN, MAN, PhD, whose mentorship, patience, and valuable insights greatly helped shape this research. My thanks also extend to my colleagues, my nursing supervisor, Nemalyn R. Ogerio, RN, MAN, and to the Chief Nurse, Madam Santa L. Mitante, RN, MAN, MMHoA, of Las Piñas General Hospital and Satellite Trauma Center, for their solid support and guidance. To my family—especially my wife, Rosie, and my children, Marianne, Benedict, and Athiya—words cannot fully express my gratitude. Thank you for your constant prayers, sacrifices, encouragement, and unwavering faith in me. You have been my greatest support system, and this accomplishment is as much yours as it is mine.

AI DECLARATION STATEMENT

AI-supported tools helped with grammar and structure in creating this article. No AI tools were used to collect, analyze, or interpret data; all authors are credited for their academic contributions.

REFERENCES

- Al-Maaitah, R., Al-Faouri, I., & Al-Fadi, A. (2023). Nurse staffing patterns and patient outcomes in government hospitals: Implications for workforce policy. *Journal of Nursing Management*, 31(4), 1012–1021. <https://doi.org/10.1111/jonm.13876>
- Caruso, C. C. (2014). NIOSH training for nurses on shift work and long work hours (DHHS Publication No. 2015-115). National Institute for Occupational Safety and Health. <https://doi.org/10.26616/NIOSH PUB2015115>
- Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.
- Griffiths, P., Dall’Ora, C., Sayer, L., & Schmidt, P. (2023). Extended nurse shifts and patient outcomes: A systematic review of the evidence. *BMJ Quality & Safety*, 32(1), 45–56. <https://doi.org/10.1136/bmjqs-2022-015123>
- Hong, K. J. (2025). Patient safety management activities and perceived workload of shift-work nurses. *International Nursing Review*, 72(3), e13069. <https://doi.org/10.1111/inr.13069>
- Institute for Healthcare Improvement. (2021). *Patient safety and workforce well-being report*. Institute for Healthcare Improvement.

- International Council of Nurses. (2022). The global nursing shortage and retention challenges: Policy brief. International Council of Nurses.
- Oner, B., Cokelek, F., Caliskan, N., & Duygulu, S. (2025). Risks posed by nurses' working hours in the intensive care unit: A systematic review. *BMC Nursing*, 24, Article 1319. <https://doi.org/10.1186/s12912-025-03983-0>
- Park, M., & Yu, S. (2022). Nurse fatigue, safety culture, and adverse events in hospitals: A correlational study. *International Journal of Nursing Studies*, 129, 104244. <https://doi.org/10.1016/j.ijnurstu.2022.104244>
- Phiri, J., Gilmour, C., Li, Y., & Zhang, Y. (2022). Effects of extended shift length on burnout and patient safety: A systematic review. *Journal of Advanced Nursing*, 78(9), 3018–3032. <https://doi.org/10.1111/jan.15163>
- Polit, D. F., & Beck, C. T. (2017). *Nursing research: Generating and assessing evidence for nursing practice* (10th ed.). Wolters Kluwer Health.
- Polit, D. F., & Beck, C. T. (2021). *Essentials of nursing research: Appraising evidence for nursing practice* (10th ed.). Wolters Kluwer Health.
- Sadeghi, R., Naderi, Z., & Yusefi, A. R. (2025). How patient safety culture influences nurses' responsibility: A structural equation modeling study. *BMC Nursing*, 24, Article 1414. <https://doi.org/10.1186/s12912-025-04072-y>
- Serrano, C., Pérez-Álvarez, M., & Díaz, A. (2021). Cognitive workload during extended nurse shifts: Implications for clinical performance. *Journal of Clinical Nursing*, 30(23–24), 3534–3545. <https://doi.org/10.1111/jocn.15825>
- World Health Organization. (2021). *Health workforce fatigue and patient safety: Policy brief*. World Health Organization.
- Zhao, W., Li, J., & Chen, L. (2023). Long working hours and health risks among nurses: Evidence from tertiary hospitals. <https://doi.org/10.1016/j.outlook.2022.08.00>