

Patient Safety Practices and Factors Affecting Medical Error Prevention Among Nursing Personnel in a Level II Government Hospital in the Province of Antique: A Basis for Patient Safety Policy Reform

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ABSTRACT

This study examined patient safety practices and the factors affecting medical error prevention among nursing personnel in a Level II government hospital in Antique Province, aiming to provide evidence for patient safety policy reform. A quantitative descriptive-correlational design was employed among 96 registered nurses selected through total enumeration. Data were gathered using a validated structured instrument and analyzed using frequencies, percentages, means, standard deviations, Kruskal-Wallis tests, and Spearman correlation at the 0.05 significance level. Findings revealed a very high overall level of patient safety practice ($M = 4.49$, $SD = 1.41$), with medication adherence obtaining the highest mean ($M = 4.68$, $SD = 1.02$). Organizational factors were strongly associated with patient safety practices (Spearman's $\rho = 0.848$, $p < 0.001$). Unfavorable nurse-patient ratios, extended or double shifts, limited resources, and abrupt reassignment were significantly associated with poorer safety performance. Years of clinical experience and patient safety training were also significantly related to safety practices, whereas age, sex, and department assignment were not. The single-site, cross-sectional design and reliance on reported practices limit the generalizability of the findings and prevent causal conclusions. Future multicentre and longitudinal research is recommended. The results support improvements in staffing, fatigue management, resource provision, reassignment procedures, continuous safety training, and non-punitive incident reporting. This study provides context-specific evidence on how modifiable organizational conditions influence nursing safety performance in a resource-limited provincial hospital, offering practical value to hospital administrators, nursing leaders, policymakers, and researchers.

Keywords: Patient safety practices, medical error prevention, nursing personnel, organizational factors, patient safety training, Level II government hospital

INTRODUCTION

Medical errors can occur throughout patient care and may be worsened in provincial hospitals by staffing shortages, long shifts, limited resources, heavy workloads, and frequent reassignment. Since nurses are central to medication safety, monitoring, infection control, documentation, and communication, this study examines how their experience, training, and workplace conditions influence patient safety practices in a Level II government hospital in Antique Province.

Statement of the Problem

This study aimed to determine the patient safety practices and factors affecting medical error prevention among nursing personnel. Specifically, it seeks to answer the following questions:

1. Describe the demographic profile of the nursing personnel in terms of: Age, Sex, Years of clinical experience, Department assignment, and Patient safety-related training attended.
2. Identify the organizational factors affecting medical error prevention as perceived by the nursing personnel in terms of: Nurse-patient ratio, Work shifting patterns (day/night/rotating shifts), Availability of resources, Abrupt change of area of assignment (floating/reassignment)
3. Determine the level of patient safety practices among nursing personnel in terms of: Medication administration practices, Hand hygiene compliance, Incident reporting and error reporting practices, Use of safety protocols and checklists
4. Determine if there is a significant relationship between the demographic profile of nursing personnel and the organizational factors contributing to medical error.
5. Determine if there is a significant relationship between organizational factors and the level of patient safety practices among nursing personnel.
6. Determine if there is a significant relationship between the demographic profile of the nursing personnel and their level of patient safety practices.
7. Determine if there is a significant relationship between organizational factors and patient safety practices when grouped according to the demographic profile.
8. Propose recommendations for policy development and program interventions to strengthen patient safety practices and improve error prevention strategies in the hospital setting.

Scope and Delimitations

The study focused on nursing personnel in one Level II government hospital in Antique Province, examining safety practices and organizational factors. Findings are specific to the institution and may not apply to other healthcare settings.

Review of Related Literature

Patient safety is influenced by experience, training, and organizational support. Staffing issues and workload may affect safety practices, supporting the study of these factors in a Level II government hospital in Antique Province.

Theoretical Framework

This study is anchored on **Donabedian's Model of Healthcare Quality** and **Reason's Swiss Cheese Model of Accident Causation**. Together, these models explain how patient safety outcomes are shaped by the interaction of workforce characteristics, clinical practices, organizational conditions, and system-level vulnerabilities.

Conceptual Framework

The study assumed that patient safety practices are influenced by both professional and organizational conditions. The demographic and professional variables included age, sex, years of clinical experience, department assignment, and patient safety-related training.

METHODOLOGY

The study employed a quantitative descriptive-correlational research design to determine the patient safety practices of nursing personnel and examine their relationships with demographic characteristics and organizational factors affecting medical error prevention.

Research Design

The study employed a quantitative descriptive-correlational research design to assess the patient safety practices of nursing personnel and determine their relationships with demographic characteristics and organizational factors affecting medical error prevention in a Level II government hospital in Antique Province.

Research Steps

The research process began with securing approval from the hospital administration and the appropriate ethics review committee, followed by formal permission from the Nursing Service Department and Records Management Unit to access relevant incident reports from 2023 to 2025.

Data Collection and Sample Selection

The study involved 96 registered nurses from various clinical departments of a Level II government hospital in Antique Province using total enumeration sampling.

Data Analysis Methods

The data were processed using SPSS and analyzed through frequency, percentage, mean, and standard deviation for descriptive statistics, while chi-square and Pearson correlation were used to test relationships among variables. Statistical significance was set at 0.05.

Research Hypotheses and Validation

The hypothesis was partially supported. Clinical experience, training, and organizational factors were related to safety practices, while age and sex were not.

Study Limitations and Ethical Considerations

The study was limited to one Level II government hospital, with cross-sectional data that showed relationships but not causation. Ethical standards were maintained through approval, anonymization, secure data handling, and objective reporting.

RESULTS AND DISCUSSION

SOP 1. What is the demographic profile of the nursing personnel in terms of age, sex, years of clinical experience, department assignment, and patient safety-related training attended?

The study involved 96 nursing personnel from different clinical departments. Most were 20–29 years old, female, had 6–10 years of clinical experience, and were assigned to the Medical-Surgical Unit. Most participants had also attended patient safety-related training.

Dominant Demographic Profile: The largest age group was 20–29 years old at 33.33%, females comprised 60.42%, nurses with 6–10 years of experience accounted for 35.42%, Medical-Surgical nurses represented 25.00%, and 75.00% had attended patient safety training.

SOP 2. What organizational factors affect the implementation of medical error prevention in terms of nurse-patient ratio, work shifting patterns, availability of resources, and abrupt changes in area assignment?

Organizational Challenges: Unfavorable nurse-patient ratios were reported by 42.71%

of participants, with 61.46% working 12-hour shifts, 21.88% experiencing double shifts, 29.17% facing resource limitations, and 25.00% encountering abrupt reassignment. These factors may increase fatigue, workload, and safety risks by affecting attention and adherence to protocols.

SOP 3. What is the level of patient safety practices among nursing personnel in terms of medication administration, hand hygiene, incident reporting, and use of safety protocols and checklists?

Very High Safety Compliance: Medication administration obtained the highest mean of 4.68, followed by hand hygiene at 4.58, incident reporting at 4.40, and checklist usage at 4.30. The overall patient safety practice score was 4.49, interpreted as Very High.

SOP 4. Is there a significant relationship between the demographic profile of nursing personnel and the organizational factors contributing to medical error?

No Significant Demographic Relationship: Age, sex, experience, and department assignment showed no significant differences ($p > 0.05$), indicating that organizational concerns affected nurses across groups.

SOP 5. Is there a significant relationship between organizational factors and the level of patient safety practices among nursing personnel?

Strong Organizational Influence: Organizational factors showed a strong positive relationship with safety practices ($p = 0.848$, $p < 0.001$), indicating that better staffing, scheduling, resources, and assignment stability improve safety implementation.

SOP 6. Is there a significant relationship between the demographic profile of nursing personnel and their level of patient safety practices?

Experience and Training as Significant Factors: Age, sex, and assignment showed no significant relationship with safety practices. Clinical experience ($r = 0.318$, $p = 0.002$) and patient safety training ($r = 0.633$, $p < 0.001$) showed significant positive relationships.

SOP 7. Is there a significant relationship between organizational factors and patient safety practices when nursing personnel are grouped according to their demographic profile?

Variation Across Demographic Groups: Significant relationships were found among nurses aged 30–59 years, both sexes, 0–10 years of experience, and ER, Medical-Surgical, and OR assignments. No significant relationships were found in other age groups, longer experience, or other departments.

SOP 8. What policy recommendations and program interventions may be proposed to strengthen patient safety practices and improve medical error prevention?

Recommended Policy Interventions: The hospital should improve staffing, manage work shifts, ensure resource availability, provide reassignment orientation, and strengthen safety training, audits, reporting, and checklist systems to reduce errors and promote patient safety.

SUMMARY

The study found that nursing personnel had very high patient safety practices, but staffing, long shifts, limited resources, and abrupt reassignment affected performance. Clinical experience, safety training, and organizational support were important in improving patient safety.

CONCLUSIONS

The study concluded that patient safety practices were very high but depended greatly on staffing, work schedules, resources, and stable assignments. Clinical experience, continuous training, and strong organizational support were also essential in reducing medical errors.

RECOMMENDATIONS

The study recommends improving staffing, managing work shifts, ensuring resources, orienting reassigned staff, and strengthening safety training and monitoring to reduce errors and promote safe nursing care.

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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.

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