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Knowledge, Attitudes, And Practices Toward Patient Safety Among Nurses in Zamboanga Del Norte Medical Center

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ABSTRACT: This study determined the knowledge, attitudes, and practices toward patient safety among nurses at Zamboanga del Norte Medical Center during the calendar year 2025. The study employed a survey and descriptive-correlational research design, using a structured questionnaire to gather data from 157 nurses who voluntarily participated in the study. The instrument measured nurses' knowledge, attitudes, and practices toward patient safety, while the data were analyzed using weighted mean, standard deviation, and Spearman rank-order correlation. Findings revealed that the nurses demonstrated a high level of knowledge toward patient safety, indicating their awareness of patient safety principles, error prevention, and the importance of systematic responses to errors. They also exhibited a high level of positive attitudes toward patient safety, particularly in collegial support, teamwork, and willingness to report safety concerns. Likewise, their practices toward patient safety were rated high, with strong evidence of continuous organizational learning, teamwork, leadership support, and safety-oriented practices. The results further showed that there is significant low positive relationship was found between knowledge and practices toward patient safety, while a significant moderate positive relationship was found between attitudes and practices. The study concluded that although knowledge contributes to safe nursing practices, positive attitudes play a stronger role in shaping actual patient safety behaviors. It is recommended that hospital administrators and healthcare leaders strengthen just culture principles, sustain patient safety training, promote open communication, reinforce non-punitive error reporting, and provide continuous professional development programs to further improve patient safety outcomes.

KEYWORDS: attitudes, knowledge, nurses, patient safety, practices, Zamboanga del Norte Medical Center, Philippines

INTRODUCTION

Nurses play a central role in safeguarding patients; however, their knowledge of patient safety is often found to be only at a moderate level, particularly in areas such as systems thinking, causes of errors, and reporting procedures. Studies show that nurses who have received prior safety education and have greater clinical experience tend to demonstrate stronger knowledge of patient safety principles (Ayyad et al., 2024). Evidence from cross-sectional hospital studies also reveals that higher levels of safety knowledge are more commonly observed in settings where formal training programs are established, although inconsistencies remain across hospital units and among different nursing roles (Wake et al., 2021). Moreover, multisite research indicates that nurses with higher self-assessed safety competence report fewer adverse events and engage more consistently in safety reporting. This highlights the vital roles and responsibilities of nurses in maintaining patient safety, as well as the importance of continuous and structured knowledge development in improving care outcomes (Kakemam et al., 2024).

Knowledge toward patient safety and attitude toward patient safety are the two key independent variables that may influence nurses' practices toward patient safety, which serve as the dependent variable. Among these, attitude toward patient safety is especially important because nurses' beliefs about leadership support, just culture, and open communication strongly affect their willingness to speak up about concerns and report incidents when they occur (Oweidat et al., 2023). Evidence from both military and civilian hospital settings further shows that just culture and authentic leadership are positively related to safety climate and nurses' motivation to report safety issues, suggesting that leadership behaviors play a vital role in shaping positive safety attitudes (Yoon et al., 2022). Moreover, review studies consistently indicate that stronger patient safety culture and more positive safety attitudes are associated with fewer adverse events, although scholars recommend greater standardization and more prospective research designs to strengthen the evidence base (Vikan et al., 2023). Overall, this suggests that nurses' knowledge and attitudes toward patient safety are important influencing factors that may affect how consistently and effectively patient safety practices are carried out in clinical settings.

Regarding practices, many organizations experience a gap between knowing safety and doing safety unless skills are deliberately trained, reinforced, and applied in the workplace. Synchronous online programs and in-service education have shown improvements in safety competency

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and related behaviors, suggesting scalable ways to enhance patient safety practices (Cho et al., 2022). System-level factors also matter, as workplace safety culture and patient safety culture are interconnected, and improvements in one may support improvements in the other (Hesgrove et al., 2024). Additionally, nurse burnout is associated with poorer safety climate and higher adverse events, implying that improvements in patient safety practices may be limited unless workload and staff well-being are properly addressed (Li et al., 2024).

Despite numerous international and regional studies on nurses' knowledge, attitudes, and practices (KAP) related to patient safety, a critical gap remains in localized, unit-specific, and methodologically rigorous research focusing on government hospitals in Mindanao, particularly the Zamboanga del Norte Medical Center (ZNMC). For instance, although studies using the Hospital Survey on Patient Safety Culture (HSOPSC) have revealed troubling deficiencies, such as low ratings for "non-punitive response to error" and underreporting of incidents among nurses (Ramos and Caligid 2018), this kind of focused evaluation has not yet been conducted at ZNMC. In contrast, the researcher observed that other hospitals, such as Dapitan City Hospital, are generally perceived to demonstrate better compliance with patient safety protocols, underscoring possible disparities in care consistency across provincial healthcare facilities. Moreover, broader analyses point to persistent gaps in safety performance measurement, oversight, and resourcing across Philippine hospitals, particularly in geographically isolated and disadvantaged areas (Tamondong-Lachica et al., 2024). Consequently, findings from international or regional studies cannot be directly generalized to ZNMC because of differences in health system structures, staffing norms, resource allocation, cultural contexts, and reporting methodologies. These contextual differences highlight the need to evaluate knowledge, attitudes, and practices within the local healthcare setting to ensure that interventions and policies are relevant and effective. Therefore, this study investigates the knowledge, attitudes, and practices of nurses toward patient safety at Zamboanga del Norte Medical Center. It seeks to generate context-specific evidence that may provide actionable insights for hospital management, inform training and professional development programs, and strengthen patient safety policies and quality improvement initiatives within the province.

LITERATURE REVIEW

Knowledge Toward Patient Safety

Based on foundational studies, nurses' knowledge of patient safety protocols, such as drug administration, infection control, and error reporting, is crucial in preventing adverse events. For example, a considerable proportion of avoidable patient harm is caused by systemic and individual knowledge gaps (Makary & Daniel, 2016). The World Health Organization's Global Patient Safety Action Plan (2021) emphasizes the importance of improved educational initiatives in developing patient safety competencies among healthcare workers at all levels (World Health Organization, 2021). Furthermore, the Agency for Healthcare Research and Quality (AHRQ, 2022) reported that hospitals with higher scores in safety knowledge domains tend to have lower rates of safety events.

Empirical evidence also links specific knowledge domains, such as safe medication administration, risk detection, and reporting mechanisms, to measurable reductions in errors. According to Hammoudi et al. (2018), nurses who have a better understanding of pharmacology and who follow medication procedures are less likely to commit medication errors. In a study on patient safety in Saudi Arabia, Alandajani et al. (2022) found a significant negative relationship between nurses' understanding of error-reporting systems and the occurrence of adverse events. Similarly, Tenza et al. (2024) found that increased clinical knowledge, particularly regarding ward-specific safety requirements, was associated with fewer near-misses and surgical complications.

Attitudes Toward Patient Safety

Nurses' views regarding patient safety strongly influence their willingness to report errors, adhere to safety regulations, and advocate for safer care environments. Research shows that nurses with more positive attitudes toward safety culture significantly contribute to the reduction of hospital errors (Alshammari et al., 2019). Attitudes also affect how error reporting is perceived, not as a source of blame, but as an opportunity for systemic improvement. Furthermore, promoting positive attitudes toward patient safety strengthens teamwork and accountability, both of which are essential in maintaining a safe healthcare environment (Lee & Dahinten, 2021).

Studies have found a direct link between nurses' attitudes and their willingness to report safety concerns. For example, Han et al. (2020) found that nurses with supportive attitudes toward safety were more likely to report near misses and adverse incidents. Similarly, Khater et al. (2015) found that positive attitudes were associated with greater openness in communication and non-punitive responses to errors. Zhang et al. (2025) noted that safety attitudes influence both reporting behaviors and adherence to safe medication administration practices.

Educational interventions and continuous training have also been shown to improve nurses' attitudes toward patient safety. For example, Torkaman (2022) found that structured safety training enhanced both knowledge and favorable attitudes toward error prevention. Ayyad et al. (2024) emphasized that nurses who participated in professional development demonstrated greater commitment and more positive safety-related attitudes. Similarly, Kim et al. (2019) found that incorporating patient safety education into nursing curricula increased proactive safety attitudes among student nurses and early-career nurses.

Practices Toward Patient Safety

Nurses' daily practices, such as proper medication administration, hand hygiene, and accurate documentation, are critical in reducing risks and preventing patient harm. For example, Alshammari et al. (2019) emphasized that adherence to infection control guidelines greatly reduces hospital-acquired infections. Similarly, Han et al. (2020) found that incorporating safety checklists into everyday nursing practices reduced adverse event rates. Tenza et al. (2024) also found that the regular use of standardized nursing protocols directly enhanced patient safety outcomes.

Nurses' readiness to disclose errors and near misses is an important practice that promotes a culture of safety. Hammoudi et al. (2018) found that hospitals with better incident-reporting practices had fewer recurring adverse events. Similarly, Torkaman (2022) found that active participation in reporting systems promoted organizational learning and helped prevent the recurrence of errors. Malak et al. (2022) emphasized that routine error reporting not only improved patient safety outcomes but also strengthened teamwork and trust among staff.

Continuous professional development is vital in maintaining safe nursing practices. Park and Yeom (2025) found that simulation-based training helped nurses detect risks and respond appropriately in clinical settings. Hughes et al. (2016) also showed that hospitals that implemented

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continuing safety courses observed higher compliance with hand hygiene and safe medication practices. Ayyad et al. (2024) found that continuing education significantly enhanced self-reported safety behaviors, emphasizing the need for lifelong learning in sustaining high safety standards.

Conceptual Framework

The conceptual framework is presented in Figure 1. First, the independent variable: knowledge of patients' safety and attitudes toward patient safety. Lastly, the dependent variable is practices toward patient safety.

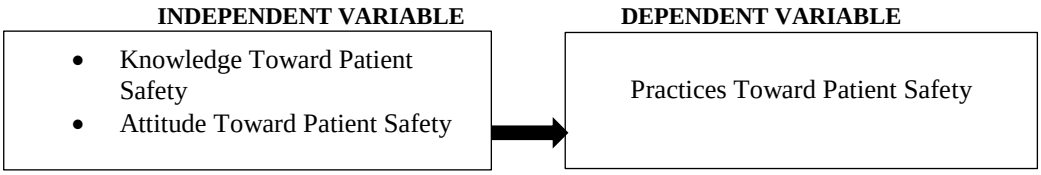


Figure 1. Conceptual Framework of the Study

Figure 1: The framework reflects a correlation between knowledge of patients' safety, attitudes toward patient safety and practices toward patient safety. The study intends to examine the influence of knowledge of patients' safety, attitudes toward patient safety and practices toward patient safety.

Statement of the Problem

This study aimed to determine the knowledge, attitudes, and practices toward patient safety among the nurses in Zamboanga del Norte Medical Center during the calendar year 2025.

Specifically, it sought to answer the following questions:

1. What is the respondents' perceived level of knowledge toward patient safety?
2. What is the respondents' perceived level of attitudes toward patient safety?
3. What is the respondents' perceived level of practices toward patient safety?
4. Is there a significant relationship between the respondents' perceived level of knowledge and practices toward patient safety?
5. Is there a significant relationship between the respondents' perceived level of attitudes and the respondents' perceived level of practices toward patient safety?

Hypotheses

1. There is no significant relationship between the respondents' perceived level of knowledge and practices toward patient safety.
2. There is no significant relationship between the respondents' perceived level of attitudes and the respondents' perceived level of practices toward patient safety.

Scope and Limitation of the Study

This study is confined to assessing the knowledge and attitudes of nurses and how these factors influence their practices toward patient safety in the Zamboanga del Norte Medical Center during the calendar year 2025. The respondents were limited to one hundred fifty seven (157) nurses employed in the said institution, specifically in Zamboanga del Norte Medical Center, Dipolog City. The scope of this research is focused only on the identified dimensions of knowledge, attitudes, and practices related to patient safety. While other descriptors or factors of knowledge, attitudes, and practices may exist, this study limits its investigation to the selected variables specified above.

RESEARCH METHODOLOGY

The study employed survey and descriptive-correlational research methods. The survey method was used because the researcher gathered data through a questionnaire checklist that measured the respondents' knowledge, attitudes, and practices toward patient safety. The data were analyzed using weighted mean, standard deviation, and Spearman rank-order correlation. According to Fowler (2014), surveys are a systematic way of gathering information from individuals by asking structured questions, allowing researchers to describe, compare, or explain knowledge, attitudes, and behaviors within a population. Meanwhile, correlational research is a non-experimental research method in which the researcher measures variables and assesses the statistical relationship among them without manipulating or controlling extraneous variables (Bhat, 2019). In this study, correlational analysis was performed to determine the significant relationship between nurses' knowledge, attitudes, and practices toward patient safety.

The researcher secured formal permission from the administration of Zamboanga del Norte Medical Center to administer and distribute the questionnaires for data collection during Calendar Year 2025. The study focused on nurses' practices and patient safety. In accordance with basic research ethics, the researcher ensured informed participation, confidentiality, anonymity, and proper handling of the respondents' answers. Since the study did not involve highly sensitive topics and posed minimal risk to the participants, a full ethical review was considered unnecessary.

The following ranges of values with their descriptive interpretation will be used:

Scale	Range of Values	Description	Interpretation
5	4.21-5.00	Strongly Agree	Very High
4	3.41-4.20	Agree	High

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3	2.61-3.40	Somewhat Agree	Average
2	1.81-2.60	Disagre	Low
1	1.00-1.80	Strongly Disagree	Very Low

Data presentation and analysis

The data are presented in accordance with the statement of the problems of the current study. The study aimed to answer the following questions:
1. What is the respondents' perceived level of knowledge toward patient safety?

Table 1: Perceived Level of Knowledge toward Patient Safety

Statements	AWV	SD	Description	Interpretation
1. The clinical environment can be a cause of errors.	3.55	0.81	Agree	High
2 Medical errors are a sign of incompetence	3.52	0.89	Agree	High
3 The key to patient safety strategies is set by national health surveillance.	3.82	0.82	Agree	High
4 Patients have an important role in preventing errors	3.77	0.79	Agree	High
5 Human error is inevitable.	3.75	0.84	Agree	High
6 An adverse event is an event that affects the patient	3.68	0.80	Agree	High
7. Patient safety is the characteristic of a highly reliable health care Organization.	4.03	0.77	Agree	High
8 The key dimension of patient safety is culture	3.69	0.82	Agree	High
9 A mistake is a failure to execute an action plan as intended or the implementation of the wrong plan	3.73	0.73	Agree	High
10 There are contributing factors to the occurrence of clinical errors.	3.72	0.75	Agree	High
11 There should be a next step to be done after the occurrence of an error	3.95	0.77	Agree	High
Overall	**3.74**	**0.63**	**Agree**	**High**

AWV=Average Weighted Value, SD=Standard Deviation

Table 1 presents the respondents' perceived level of knowledge toward patient safety. The data show that nurses at Zamboanga del Norte Medical Center demonstrated a high level of knowledge toward patient safety, as reflected in the overall average weighted value of 3.74 (SD = 0.63), described as "Agree" and interpreted as "High." The highest-rated statement, "Patient safety is the characteristic of a highly reliable health care organization" (AWV = 4.03, SD = 0.77), indicates that the respondents strongly recognized patient safety as a fundamental indicator of organizational excellence. Similarly, the respondents agreed that "There should be a next step to be done after the occurrence of an error" (AWV = 3.95, SD = 0.77) and that "The key to patient safety strategies is set by national health surveillance" (AWV = 3.82, SD = 0.82), showing their awareness of corrective actions and regulatory mechanisms that guide safety practices. Meanwhile, the lowest-rated statement, "Medical errors are a sign of incompetence" (AWV = 3.52, SD = 0.89), although still interpreted as high, suggests some uncertainty regarding whether errors should be viewed as individual failures or as outcomes of system-related factors. This finding is important in promoting a just culture where error reporting is encouraged without fear of blame or punishment. This means that the nurses possess adequate knowledge of patient safety principles, particularly in recognizing the importance of safety systems, error response, and organizational reliability. This implies that hospital administrators should continue strengthening structured training, safety orientation, and competency-based programs to help nurses translate their knowledge into consistent patient safety practices.

The current finding is supported by Berdida and Alhudaib (2025), who emphasized that patient safety knowledge contributes to caring behaviors and professional self-efficacy among Filipino nurses, which may help reduce missed nursing care. Similarly, Labrague (2025) found that higher compassion competence among nurses was positively associated with adherence to safety standards and fewer patient safety incidents, underscoring the importance of foundational knowledge in promoting safe practice. However, Verano (2025) stressed that knowledge alone is not sufficient; structured competency-based training and visible leadership commitment are necessary to sustain a positive patient safety culture in Philippine healthcare settings. Therefore, while the nurses demonstrated high knowledge toward patient safety, healthcare institutions must continue investing in systems that support the application of such knowledge in daily clinical practice.

2. What is the respondents' perceived level of attitudes toward patient safety?

Table 2: Perceived Level of Attitudes towards Patients Safety

Statements	AWV	SD	Description	Interpretation
1. Nurse input is well-received in this clinical area.	3.85	0.73	Agree	High
2 In this clinical area, it is easy to speak up if I perceive a problem with patient care	3.80	0.71	Agree	High
3 Disagreements in this clinical area are resolved appropriately	3.75	0.81	Agree	High

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4 I have the support I need from other personnel to care for patients	3.94	0.81	Agree	High
5 It is easy for personnel here to ask questions when there is something that they do not understand.	3.90	0.81	Agree	High
6 The health care workers here work together as a well-coordinated team.	3.89	0.80	Agree	High
7. I would feel safe being treated here as a patient	3.83	0.82	Agree	High
8. Medical errors are handled appropriately in this clinical Area	3.79	0.78	Agree	High
9. I receive appropriate feedback about my performance.	3.80	0.74	Agree	High
10. I know the proper channels to direct questions regarding patient safety	3.89	0.78	Agree	High
11. In this clinical area, it is easy to discuss errors	3.73	0.78	Agree	High
12. I am encouraged by my colleagues to report any patient safety concerns.	3.99	0.76	Agree	High
13. This clinical area makes it easy to learn from the errors of others	3.83	0.76	Agree	High
14. Management does not knowingly compromise patient safety	3.78	0.73	Agree	High
15. Fatigue impairs my performance during emergencies	3.87	0.82	Agree	High
Overall	**3.84**	**0.59**	**Agree**	**High**

AWV=Average Weighted Value, SD=Standard Deviation

Table 2 presents the respondents' perceived level of attitudes toward patient safety. The data show that nurses at Zamboanga del Norte Medical Center demonstrated a high level of attitudes toward patient safety, as reflected in the overall average weighted value of 3.84 (SD = 0.59), described as "Agree" and interpreted as "High." The highest-rated statement, "I am encouraged by my colleagues to report any patient safety concerns" (AWV = 3.99, SD = 0.76), indicates a strong culture of collegial support for safety reporting. This is an important element of a just culture, where learning and improvement are prioritized over blame. Other highly rated statements include "I have the support I need from other personnel to care for patients" (AWV = 3.94, SD = 0.81) and "It is easy for personnel here to ask questions when there is something that they do not understand" (AWV = 3.90, SD = 0.81), suggesting the presence of teamwork, open communication, and psychological safety within the clinical environment. Meanwhile, the lowest-rated statements, "Disagreements in this clinical area are resolved appropriately" (AWV = 3.75, SD = 0.81) and "In this clinical area, it is easy to discuss errors" (AWV = 3.73, SD = 0.78), although still interpreted as high, suggest areas for improvement in conflict resolution and open discussion of mistakes. This means that the nurses generally hold positive attitudes toward patient safety, particularly in terms of teamwork, collegial support, and willingness to report safety concerns. This implies that hospital administrators and nurse leaders should continue strengthening open communication, supportive supervision, and non-punitive reporting systems to further improve the safety culture of the institution.

The current result is supported by Labrague (2025), who found that compassion competence among nurses in Visayas hospitals positively influences adherence to safety standards and helps reduce patient safety incidents, highlighting the importance of interpersonal support and teamwork in patient safety outcomes. Similarly, Berdida and Alhudaib (2025) found that patient safety influences caring behaviors and professional self-efficacy among Filipino emergency room nurses, with these factors serving as important mediators in minimizing missed nursing care. Furthermore, Verano (2025) emphasized that leadership visibility and structured communication are essential in sustaining a positive patient safety culture in Philippine healthcare settings. Therefore, the overall high attitude scores suggest that nurses at Zamboanga del Norte Medical Center work in an environment that values safety, teamwork, and open dialogue, which are essential foundations for translating positive attitudes into actual safety behaviors and improved patient outcomes.

3. What is the respondents' perceived level of practices toward patient safety?

Table 3: Perceived Level of Practices toward Patient Safety

Statements	AWV	SD	Description	Interpretation
1. There is teamwork within the hospital.	4.22	0.79	Strongly Agree	Very High
2. There is teamwork across the hospital.	4.06	0.81	Agree	High
3. The supervisor's expectations and actions promote patient safety.	4.15	0.74	Agree	High
4. There is feedback and communication about errors.	3.96	0.76	Agree	High
5. There is a non-punitive response to errors.	3.84	0.75	Agree	High
6. The hospital management supports patient safety.	4.15	0.71	Agree	High
7. The hospital effectively manages handoffs and patient transfers.	4.06	0.71	Agree	High

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8. The organization engages in continuous learning and improvement.	4.24	0.74	Strongly Agree	Very High
Overall	**4.08**	**0.67**	**Agree**	**High**

AWV=Average Weighted Value, SD=Standard Deviation

Table 3 presents the respondents' perceived level of practices toward patient safety. The data show that nurses at Zamboanga del Norte Medical Center demonstrated a high level of patient safety practices, as reflected in the overall average weighted value of 4.08 (SD = 0.67), described as "Agree" and interpreted as "High." The highest-rated statements indicate notable strengths in organizational learning and teamwork. Specifically, "The organization engages in continuous learning and improvement" obtained the highest rating (AWV = 4.24, SD = 0.74), followed by "There is teamwork within the hospital" (AWV = 4.22, SD = 0.79), both described as "Strongly Agree" and interpreted as "Very High." These findings suggest that continuous learning, interprofessional collaboration, and shared responsibility for safety are strongly practiced within the hospital. Other highly rated practices include "The supervisor's expectations and actions promote patient safety" (AWV = 4.15, SD = 0.74) and "The hospital management supports patient safety" (AWV = 4.15, SD = 0.71), indicating that leadership and management support play important roles in sustaining safety-oriented practices. Meanwhile, the lowest-rated statement, "There is a non-punitive response to errors" (AWV = 3.84, SD = 0.75), although still interpreted as high, suggests an area for improvement in strengthening just culture principles. This means that while nurses generally practice patient safety at a high level, there is still a need to further ensure that healthcare workers feel safe in reporting errors without fear of blame or punishment. This implies that hospital administrators and nursing leaders should continue promoting non-punitive reporting mechanisms, open communication, and systematic learning from errors to further improve the patient safety climate.

The current finding is supported by Padrogane (2025), who identified teamwork as one of the strongest components of patient safety culture in a Cebu government hospital, indicating that collaboration and cooperation are essential in maintaining a safe healthcare environment. Similarly, Verano (2025) established a strong positive relationship between leadership visibility, communication, and adherence to patient safety standards among Filipino healthcare professionals, emphasizing that visible leadership support is important in translating safety policies into consistent practice. Furthermore, Tubayan (2025) found that clinical leaders, managers, and supervisors in Philippine hospitals actively promote patient safety and address safety issues through communication and incident reporting practices. Therefore, the high ratings in continuous learning, teamwork, leadership support, and management commitment suggest that Zamboanga del Norte Medical Center has established a positive patient safety culture, although continued efforts are needed to strengthen non-punitive error reporting and further enhance safety practices.

4. Is there a significant relationship between the respondents' perceived level of knowledge and practices toward patient safety?

Table 4: Test of the Relationship between the Perceived Levels of Knowledge and Practices toward Patient Safety

Variables Correlated	rho-value	p-value	Interpretation
Knowledge and Practices toward Patient Safety	0.26	0.001	Small/low positive correlation Significant

Table 4 presents the test of the relationship between the respondents' perceived levels of knowledge and practices toward patient safety. Using the Spearman Rank-Order Correlation Coefficient, the results show a statistically significant but small positive correlation between nurses' perceived knowledge and their self-reported practices toward patient safety at Zamboanga del Norte Medical Center (rho = 0.26, p = 0.001). Since the p-value is less than the 0.05 level of significance, the null hypothesis is rejected. This means that nurses' knowledge of patient safety is significantly related to their patient safety practices; however, the strength of the relationship is low. This finding indicates that although nurses' knowledge contributes to the performance of patient safety practices, knowledge alone explains only a limited portion of how safety practices are carried out in clinical settings. The significant relationship confirms that the association is not due to chance, while the low correlation suggests that other factors, such as organizational support, leadership engagement, teamwork, availability of resources, workload, and institutional policies, may also influence whether knowledge is translated into consistent safety behaviors. This implies that hospital administrators and nursing leaders should not only strengthen patient safety knowledge through training and orientation but also improve the organizational systems that enable nurses to apply such knowledge effectively in their daily practice.

The current research is supported by Berdida and Alhudaib (2025), who emphasized that patient safety knowledge influences caring behaviors and professional self-efficacy, but these factors need to be supported by personal and organizational mechanisms to reduce missed nursing care. Similarly, Labrague (2025) found that compassion competence and adherence to safety standards are interconnected, with safety protocol adherence serving as an important link between nurses' internal competencies and actual patient safety outcomes. Verano (2025) also stressed that leadership visibility, structured training programs, and organizational commitment are essential in bridging the knowledge-practice gap in Philippine healthcare settings. Therefore, the significant but low relationship observed in this study suggests that improving patient safety practices requires both continuous knowledge reinforcement and stronger institutional support systems, including supportive leadership, adequate resources, open communication, and a non-punitive safety culture.

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5. Is there a significant relationship between the respondents' perceived level of attitudes and the respondents' perceived level of practices toward patient safety?

Table 5: Test of the Relationship between the Perceived Levels of Attitude and Practices toward Patient Safety

Variables Correlated	rho-value	p-value	Interpretation
Attitude and Practices toward Patient Safety	0.34	< 0.001	Medium/moderate positive Correlation Significant

Table 5 presents the test of the relationship between the respondents' perceived levels of attitudes and practices toward patient safety. Using the Spearman Rank-Order Correlation Coefficient, the results show a statistically significant moderate positive correlation between nurses' attitudes and their self-reported practices toward patient safety at Zamboanga del Norte Medical Center (rho = 0.34, $p < 0.001$). Since the p-value is less than the 0.05 level of significance, the null hypothesis is rejected. This means that nurses' attitudes toward patient safety are significantly related to their patient safety practices.

This finding indicates that as nurses' attitudes toward patient safety become more favorable, their engagement in patient safety practices also tends to increase. The moderate strength of the relationship suggests that attitudes are meaningful contributors to safety-related behaviors. Compared with the relationship between knowledge and practices (rho = 0.26), the stronger correlation between attitudes and practices suggests that attitudes may serve as a stronger driver of actual patient safety practices than knowledge alone. This implies that hospital administrators and nursing leaders should not only provide knowledge-based training but also cultivate positive safety attitudes through role modeling, supportive supervision, open communication, interdisciplinary collaboration, and non-punitive reporting systems.

The current finding is supported by Berdida and Alhudaib (2025), who found that patient safety influences caring behaviors and professional self-efficacy among Filipino emergency room nurses, with these attitudinal factors serving as important mediators in reducing missed nursing care. Similarly, Labrague (2025) found that compassion competence, which includes empathy, caring, and emotional intelligence, positively influences adherence to safety standards and helps reduce patient safety incidents. Verano (2025) also emphasized that leadership visibility, communication, and organizational support are essential in translating positive attitudes into consistent safety practices. Furthermore, Chen et al. (2025) reported that teamwork within units and organizational learning are among the strongest components of patient safety culture, while non-punitive response to error remains one of the weakest areas. Therefore, the significant moderate relationship observed in this study suggests that improving patient safety practices at Zamboanga del Norte Medical Center requires sustained efforts to strengthen positive safety attitudes, just culture principles, leadership commitment, and teamwork within the clinical environment.

DISCUSSION

The findings of the study revealed that nurses at Zamboanga del Norte Medical Center demonstrated a high level of knowledge, attitudes, and practices toward patient safety. The high level of knowledge indicates that the respondents were generally aware of essential patient safety concepts, including error prevention, corrective actions after errors, the role of patients in preventing errors, and the importance of safety culture in healthcare organizations. This suggests that nurses possess the necessary foundational understanding of patient safety principles needed in clinical practice. However, the lowest-rated item, which dealt with the idea that medical errors are signs of incompetence, suggests that some nurses may still associate errors with individual failure rather than with broader system-related factors. This highlights the need to further strengthen the concept of a just culture, where errors are treated as opportunities for learning and system improvement rather than as grounds for blame. The study also showed that nurses had a high level of positive attitudes toward patient safety. The respondents particularly expressed strong collegial encouragement in reporting patient safety concerns, support from other personnel, and openness in asking questions when something is unclear. These findings suggest that the clinical environment promotes teamwork, communication, and shared responsibility for patient safety. However, the relatively lower ratings on resolving disagreements and discussing errors indicate that open communication about mistakes and conflict resolution may still require improvement. This implies that while the respondents generally value patient safety, hospital leaders should continue to create a psychologically safe environment where nurses can discuss errors, raise concerns, and resolve disagreements without fear of punishment or negative judgment.

In terms of practices toward patient safety, the respondents also obtained a high rating. The highest-rated indicators were continuous organizational learning and teamwork within the hospital, showing that nurses perceived their workplace as supportive of improvement and collaboration. Leadership support was also evident, as supervisor expectations and hospital management support for patient safety were rated highly. These results suggest that patient safety practices are already embedded in the daily work environment of the nurses. Nevertheless, the lowest-rated practice was the non-punitive response to errors. Although still interpreted as high, this result points to the continuing need to strengthen non-punitive reporting systems so that nurses will feel fully safe in reporting errors and near misses. A stronger non-punitive safety culture may further improve transparency, learning, and accountability within the institution.

The relationship between knowledge and practices toward patient safety was found to be statistically significant but low and positive. This means that nurses with higher knowledge of patient safety also tend to report better patient safety practices; however, the strength of the relationship is weak. This finding suggests that knowledge alone is not enough to ensure consistent safe practices. While knowledge provides the foundation for correct action, actual practice may still be influenced by other factors such as workload, staffing, leadership support, communication patterns, availability of resources, and institutional policies. Therefore, patient safety improvement should not focus only on information dissemination or training but should also address the organizational conditions that allow nurses to apply what they know in actual clinical situations.

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On the other hand, the relationship between attitudes and practices toward patient safety was statistically significant, moderate, and positive. This indicates that nurses with more favorable attitudes toward patient safety are more likely to engage in safer practices. Compared with knowledge, attitudes showed a stronger relationship with practices, suggesting that what nurses believe, value, and feel about patient safety may have a greater influence on their actual behavior. This finding emphasizes the importance of cultivating positive safety attitudes through supportive leadership, teamwork, open communication, role modeling, and just culture principles. When nurses perceive that safety is valued by their colleagues, supervisors, and the institution, they are more likely to translate this attitude into consistent patient safety behaviors.

Overall, the findings suggest that patient safety among nurses at Zamboanga del Norte Medical Center is supported by strong knowledge, positive attitudes, and high levels of safety practices. However, the results also show that improving patient safety requires more than knowledge acquisition. Since attitudes demonstrated a stronger relationship with practices, interventions should focus not only on training and competency-building but also on strengthening the hospital's safety culture. Hospital administrators and nurse leaders should sustain continuous professional development, reinforce non-punitive error reporting, promote open communication, support teamwork, and ensure visible leadership commitment. These actions may help bridge the gap between knowing patient safety and consistently practicing it in daily nursing care.

CONCLUSION

Based on the findings of the study, it is concluded that the nurses at Zamboanga del Norte Medical Center demonstrated a high level of knowledge toward patient safety. This means that they possess adequate understanding of patient safety principles, including error prevention, corrective actions, safety culture, and the importance of organizational reliability in healthcare delivery. Their knowledge provides an important foundation for promoting safe and quality nursing care. The study also concluded that the nurses exhibited a high level of positive attitudes toward patient safety. This means that they generally value teamwork, collegial support, open communication, and the reporting of patient safety concerns as essential components of safe nursing practice. Likewise, the nurses showed a high level of practices toward patient safety, indicating that teamwork, continuous learning, leadership support, and management commitment are generally observed and applied in the clinical setting.

Furthermore, the study found a significant low positive relationship between knowledge and practices toward patient safety. This means that nurses' knowledge contributes to their patient safety practices; however, knowledge alone has limited influence, since other organizational and work-related factors may also affect how safety practices are carried out. Meanwhile, a significant moderate positive relationship was found between attitudes and practices toward patient safety, indicating that nurses with more favorable attitudes are more likely to engage in safe nursing practices.

Overall, the study concludes that patient safety practices among nurses are influenced by both knowledge and attitudes, but positive attitudes appear to have a stronger connection with actual practice. This implies that improving patient safety requires not only continuous training and knowledge enhancement but also the strengthening of a positive safety culture, supportive leadership, open communication, teamwork, and non-punitive error reporting within the hospital.

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REFERENCES

1) Agency for Healthcare Research and Quality. (2022). Surveys on patient safety culture: SOPS hospital survey 2.0: 2022 user database report. Agency for Healthcare Research and Quality.
2) Alandajani, A., Khalid, B., Ng, Y. G., & Banakhar, M. (2022). Knowledge and attitudes regarding medication errors among nurses: A cross-sectional study in major Jeddah hospitals. Nursing Reports, 12(4), 1023–1039.
3) Alshammari, F., Pasay-an, E., Alboliteeh, M., & Cruz, J. P. (2019). Nurses' perceptions of patient safety culture in Saudi Arabian hospitals: A cross-sectional study. Nursing Open, 6(3), 1067–1074.
4) Ayyad, A., Abu Baker, N., Oweidat, I., Al-Mugheed, K., Alsenany, S. A., & Abdelaliem, S. M. F. (2024a). Knowledge, attitudes, and practices toward patient safety among nurses in health centers. BMC Nursing, 23, 171.
5) Ayyad, A., Mahmoud, S., & Ali, H. (2024b). Knowledge, attitudes, and practices toward patient safety among nurses: The role of continuing education. Journal of Nursing Management, 32(1), 45–55.
6) Berdida, D. J. E., & Alhudaib, K. A. (2025). Linking patient safety, caring behaviours and professional self-efficacy with missed nursing care among Filipino emergency room nurses: A structural equation model study. Journal of Clinical Nursing, 34(6), 2181–2193.
7) Bhat, A. (2019). Correlational research: What it is with examples. QuestionPro. https://www.questionpro.com/blog/correlational-research/
8) Chen, X., Pan, H., Li, F., & Gong, G. (2025). Nurses' perceptions of patient safety culture in intensive care units: A systematic review and meta-analysis. Nursing in Critical Care, 30(5), e70138.
9) Cho, D. B., Lee, W., Kim, S. Y., & Choi, S. (2022). Effect of online education on the knowledge on, attitudes towards, and skills in patient safety for nursing students in Korea: A mixed-methods study. Journal of Educational Evaluation for Health Professions, 19.
10) Fowler, F. J. (2014). Survey research methods (5th ed.). SAGE Publications.
11) Hammoudi, B. M., Ismaile, S., & Abu Yahya, O. (2018). Factors associated with medication administration errors and knowledge of nurses in Saudi Arabia. Saudi Pharmaceutical Journal, 26(3), 401–407.

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12) Han, Y., Kim, J. S., & Seo, Y. (2020). Cross-sectional study on patient safety culture, patient safety competency, and adverse events. Western Journal of Nursing Research, 42(1), 32–40.
13) Hesgrove, B., Zebrak, K., Yount, N., Sorra, J., & Ginsberg, C. (2024). Associations between patient safety culture and workplace safety culture in hospital settings. BMC Health Services Research, 24(1), 568.
14) Hughes, A. M., Gregory, M. E., Joseph, D. L., Sonesh, S. C., Marlow, S. L., Lacerenza, C. N., & Salas, E. (2016). Saving lives: A meta-analysis of team training in healthcare. Journal of Applied Psychology, 101(9), 1266.
15) Kakemam, E., Albelbeisi, A. H., Rouzbahani, M., Gharakhani, M., Zahedi, H., & Navvabi, S. (2024). Nurses' perceptions of patient safety competency: A cross-sectional study of relationships with occurrence and reporting of adverse events. PLOS ONE, 19(1), e0297185.
16) Khater, W. A., Akhu-Zaheya, L. M., Al-Mahasneh, S. I., & Khater, R. (2015). Nurses' perceptions of patient safety culture in Jordanian hospitals. International Nursing Review, 62(1), 82–91.
17) Kim, Y. M., Yoon, Y. S., Hong, H. C., & Min, A. (2019). Effects of a patient safety course using a flipped classroom approach among undergraduate nursing students: A quasi-experimental study. Nurse Education Today, 79, 180–187. https://doi.org/10.1016/j.nedt.2019.05.033
18) Labrague, L. J. (2025). How does nurse compassion competence influence patient safety incidents? Exploring the mediating role of safety standards adherence. Worldviews on Evidence-Based Nursing, 22(5), e70071.
19) Lee, S. E., & Dahinten, V. S. (2021). Psychological safety as a mediator of the relationship between inclusive leadership and nurse voice behaviors and error reporting. Journal of Nursing Scholarship, 53(6), 737–745. https://doi.org/10.1111/jnu.12689
20) Li, L. Z., Yang, P., Singer, S. J., Pfeffer, J., Mathur, M. B., & Shanafelt, T. (2024). Nurse burnout and patient safety, satisfaction, and quality of care: A systematic review and meta-analysis. JAMA Network Open, 7(11), e2443059.
21) Makary, M. A., & Daniel, M. (2016). Medical error—the third leading cause of death in the US. BMJ, 353, i2139.
22) Malak, M. Z., Salouk, J., Al-Shawawreh, R., Al-Kamiseh, H., & Ayed, A. (2022). Perceptions of patient safety culture among emergency room nurses in Jordanian accredited hospitals. Journal of Nursing Management, 30(7), 3131–3138.
23) Oweidat, I., Abu Baker, N., Ayyad, A., Al-Motlaq, M., & Albataineh, R. (2023). Awareness of reporting practices and barriers to incident reporting among nurses: A cross-sectional study. BMC Nursing, 22, 183.
24) Padrogane, K. G. B. (2025). Perceived leadership and safety culture of health care professionals in a government hospital in Cebu City, Philippines [Master's thesis, University of the Philippines Open University]. UPOU Repository.
25) Park, H. Y., & Yeom, I. (2025). Effects of patient safety education programs on nursing students' knowledge, attitude, and competency with patient safety: A systematic review, meta-analysis, and meta-regression. Nurse Education Today, 150, 106675.
26) Ramos, R. R., & Calidgid, C. C. (2018). Patient safety culture among nurses at a tertiary government hospital in the Philippines. Applied Nursing Research, 44, 67–75.
27) Tamondong-Lachica, D. R., Panganiban, L. C. R., Roberto, G. D., Calacday, C. R. D., & Mejia, A. D. (2024). Description of core performance measures and indicators of patient safety used by select government and private hospitals in the Philippines. Acta Medica Philippina, 58(1), 15.
28) Tenza, I. S., Blignaut, A. J., Ellis, S. M., & Coetzee, S. K. (2024). Nurse perceptions of practice environment, quality of care and patient safety across four hospital levels within the public health sector of South Africa. BMC Nursing, 23(1), 324.
29) Torkaman, M., Sabzi, A., & Farokhzadian, J. (2022). The effect of patient safety education on undergraduate nursing students' patient safety competencies. Community Health Equity Research & Policy, 42(2), 219–224.
30) Tubayan, P. A. T. (2025). Development and acceptability of the E-Nurse patient safety system towards technology management. International Journal of Research and Scientific Innovation, 12(8), 581–596.
31) Verano, F. R. (2025). Enhancing patient safety culture in healthcare organization through training and leadership. Asia Pacific Journal of Allied Health Sciences, 8(2), 25–33.
32) Vikan, M., Aase, K., & de Gaal, S. (2023). The association between patient safety culture and adverse events: A scoping review. BMC Health Services Research, 23, 932.
33) Wake, A. D., Tuji, T. S., Gonfa, B. K., Waldekidan, E. T., Beshaw, E. D., Mohamed, M. A., & Geressu, S. T. (2021). Knowledge, attitude, practice and associated factors towards patient safety among nurses: A cross-sectional study. PLOS ONE, 16(7), e0254122.
34) World Health Organization. (2021). Global patient safety action plan 2021–2030: Towards eliminating avoidable harm in health care. World Health Organization.
35) Yoon, S., Kim, I., & Lee, S. (2022). Factors influencing military nurses' reporting of patient safety events: Roles of just culture, authentic leadership, safety climate, and safety motivation. Asian Nursing Research, 16(3), 151–158.
36) Zhang, N., Xu, Y., Lu, Q. D., Wang, Y., Zhu, L. Y., An, R. X., & Wang, X. J. (2025). Nurses' knowledge, attitude, and practice in peripherally inserted central catheter-related thrombosis prophylactic practices: A multicentric cross-sectional study. Medicine, 104(17), e42005.

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