Original Research Paper

Attitudes towards patient safety culture among pediatric nurses at government tertiary hospital in Vietnam

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Abstract

Pediatric patients are vulnerable to medication errors. Nurses have essential roles in patient safety and their quality of care. Therefore, nurses' attitudes regarding safety culture help nurses gain a profound insight into patient safety problems as well as potential solutions to cope with them. Motivating nursing professionals to understand safety culture and how they act about patient safety is one of the first steps to improving patient safety in healthcare institutions. This study aims to investigate attitudes towards patient safety culture among pediatric nurses and related factors. A cross-sectional descriptive correlational design was used with a sample size of 105 pediatric nurses at a selected government hospital in the Mekong Delta, Vietnam. Nurses' attitudes towards patient safety culture were examined using a 4-likert questionnaire including 30 items divided into six subscales. Data analysis was performed in SPSS Version 26.0 using descriptive statistics and analysis of variance (ANOVA). The study findings showed that the overall mean score of attitude towards patient safety culture was 3.30 (SD = 0.45). Among subscales of attitudes, teamwork climate had the lowest mean scores. There were statistically significant associations between the level of education, experience, and nurses' attitudes. According to the results, nurses' attitudes regarding patient safety culture were good. However, there were some aspects that should be enhanced. It is strongly recommended that specific training interventions be performed to enhance the teamwork climate in the hospital.

Keywords: attitude; patient safety; pediatric nurses; safety culture; Vietnamese

1. Introduction

Patient safety aims to prevent and reduce risks, errors, and harm that occur to patients during the provision of health care (Mueller et al., 2019; Vaismoradi et al., 2020). It is a global issue, not only among developing countries but also in developed countries (Sonğur et al., 2018). In terms of nursing care, it is one of the central elements of providing care services among healthcare organizations. In addition, patient safety remains an important challenge for quality improvement in all health systems, especially in developing countries (Elmontsri et al., 2018; Harrison et al., 2015). Lack of safe care kills and harms millions of people each year. It also exerts a great economic cost on health systems and society, consuming valuable resources that could be put to productive use elsewhere (O'Dowd, 2018).

One of the major factors in improving patient safety in hospitals is compliance with the patient safety culture. Leadership, teamwork, safety climate, job satisfaction, emotional exhaustion, stress recognition, and working conditions were identified as critical factors impacting the patient safety culture (Brooks Carthon et al., 2019; Salih et al., 2021). Enhancing patient safety culture is an essential objective in the establishment of clinical governance as well as nursing leadership. Nurses who have

essential roles in patients' recovery and health strongly contribute to patient-centered care, patient safety, and quality of care (Cathro, 2016; Gaffney et al., 2016). Their awareness and perception regarding safety culture help them have a profound insight into patient safety problems as well as potential solutions to cope with them. Motivating nursing professionals to understand safety culture and how they act about patient safety is one of the first steps to improving patient safety in health care institutions (Alaqeli & Altarhuni, 2021).

Healthcare organizations with a positive safety culture are distinguished by mutual trust-based communication, shared perceptions of the importance of safety, trust in the efficacy of preventive measures, positive beliefs about how things work in the organization, and the interaction of these with work units and organizational structures, as well as systems that produce behavioral norms in healthcare organizations that promote patient safety (Wu et al., 2022). Besides, safe services have become a focus of nursing leaders at all levels within the healthcare system, and leadership is one of the major predictors of safety culture.

The evaluation of attitudes is a reliable measure for assessing the efficacy of patient safety programs. Studies on the evaluation of patient safety culture in several countries show an overarching composite score for patient safety culture that spans from 12.4% to 48% (Camacho-Rodríguez et al., 2022; Konlan & Shin, 2022), indicating the necessity for enhancements. Several previous studies have discussed nurses' attitudes towards patient safety culture, but they are more directed towards nurses in emergency care unit, intensive care unit or nurses in general (Aydemir & Koç, 2023; Durgun & Kaya, 2018; Farzi et al., 2017; Saberi et al., 2017; Salih et al., 2021). Unfortunately, there is a lack of examination of pediatric nurses' attitudes towards patient safety culture. Even though pediatric patients are vulnerable to medication errors.

Previous studies in several countries have shown high rates of medication errors in pediatric patients ranging from 41.8% to 72% (Bante et al., 2023; Baraki et al., 2018; Brennan-Bourdon et al., 2020; Feleke et al., 2015; Feyissa et al., 2020). Meanwhile, Khan et al. (2016) also found that the medical error rate and avoidable adverse events in hospitalized children are 6.0 per 100 admissions and 1.8 per 100 admissions, respectively. Medical errors caused pediatric patients to stay in the hospital longer and were more likely to have metabolic or neuromuscular disorders (Khan et al., 2016). Vietnam has proven that it is committed to providing its citizens with safe, high-quality healthcare services. One of the forms of their commitment is the issuance of Circular 43/BYT/2018, "Guideline for prevention of medical adverse events in health care facilities.", by the Vietnam Ministry of Health. The guidelines seek to create a healthcare setting in which medical errors are recognized, examined, reported, and addressed to prevent occurrence in the future (World Health Organization, 2019). Therefore, this study aims to investigate attitudes towards patient safety culture among pediatric nurses and related factors.

2. Research Methods

A descriptive cross-sectional design was used in this study. The study was conducted at a government tertiary hospital in the Mekong Delta. A sample of 105 respondents was randomly selected from a group of nurses working in government pediatric hospitals in the Mekong Delta, Vietnam, based on inclusion criteria including (1) working full-time to care for pediatric patients, (2) having experience as a pediatric nurse for at least 6 months, and (3) being willing to participate in the study.

The instruments used in this study are (1) Demographic Questionnaire: nursing participants' demographic data was collected by using a self-report questionnaire, including information on age, gender, level of education, and experience in years; (2) Nurses' attitudes toward patient safety culture: were examined by using the Safety Attitude Questionnaire (the SAQ). The scale included 30 items and was developed by (Sexton et al., 2006) for measuring healthcare workers's safety attitudes. Its subscales included teamwork climate, safety climate, job satisfaction, stress recognition, perceptions of

management, and working conditions (Sexton et al., 2006). The responses for each item were reflected on a Likert scale from 1 (strongly disagree) to 4 (strongly agree). The overall domain score was calculated by summing all the items in each domain and then dividing by the number of items. The higher scores indicated a more positive assessment regarding safety culture. The original instrument in English was adapted and translated into Vietnamese by using the back-translation method. Then, the questionnaire was distributed to 30 nurses who had the same characteristics as the study participants for the pilot study. By using 30 nurses who had the same characteristics as the sample to complete the translated questionnaires to check the language understanding of the subjects. Accomplishment of the questionnaires took approximately 10 minutes. The reliability of Vietnamese versions of questionnaires was also tested. In this study, the internal consistency reliability was 0.90.

To achieve the objectives of the current study, the data were analyzed using Statistical Package for Social Science (SPSS) version 26.0. Descriptive statistics in terms of frequency, percent, mean, standard deviation, and range were used to examine demographic characteristics and attitudes towards patient safety culture among nursing respondents. A One-way ANOVA test was used to determine relationships between nurses' safety attitudes and related factors. Statistical significance was considered at lower than 0.05. The study was approved by the Ethical Review Board before data gathering (Decision No. TUA.IERC.015.R02 August 12, 2022). Written informed consent was obtained from the nurses, and the participants were assured of their anonymity.

3. Results and Discussion
3.1. Characteristics of Respondent

The mean age among respondents was 31.1±4.4 years. Most of the participants were female (72.4%). The nursing profession is a female-dominated profession (Berkery et al., 2014). The nursing profession is more suitable for women (S. Cho & Jang, 2021; Sasa, 2019), because women are considered more feminine and motherly and have a high sense of empathy that suits this profession. Half of the study participants hold a bachelor's degree in nursing (55.2%) and have 5 to 10 years of experience as nursing professionals (41.0%).

3.2. Attitudes Toward Patient Safety Culture Among Pediatric Nurses

Pediatric nurses had high mean attitudes toward patient safety culture scores of 3.30/4.00 (SD = 0.45). Among the subscales, stress recognition had the highest score, while teamwork climate and working conditions had the lowest (Table 1).

Table 1. Attitude Toward Patient Safety Culture Among Pediatric Nurses

	Number of items	Mean	S.D.
Attitude toward patient safety culture	30	3.30	0.45
Subscales			
Teamwork climate	6	3.14	0.57
Safety climate	7	3.29	0.51
Job satisfaction	5	3.29	0.58
Stress recognition	4	3.48	0.45
Perceptions of management	4	3.45	0.50
Working conditions	4	3.27	0.54

Source: Primary Data, 2023

Table 2 shows that most nursing participants agreed that stress recognition strongly affected their working performance. Meanwhile, there was a lack of support and teamwork in caring for patients, as well as coordination between nurses and physicians in the clinical environment (Table 3).

Table 2. The Highest Mean Scores Of Nurses' Attitudes Toward Patient Safety Culture

No	Dimensions	Mean	S.D.
1	Fatigue impairs my performance during emergency situations (e.g., emergency resuscitation, seizure)	3.52	0.57
2	Hospital management does not knowingly compromise the safety of patients	3.52	0.52
3	I am less effective at work when fatigued	3.50	0.56
4	I am provided with adequate, timely information about events in the hospital that might affect my work	3.48	0.64
5	I am more likely to make errors in tense or hostile situations	3.46	0.62
6	When my workload becomes excessive, my performance is impaired	3.45	0.60
7	Trainees in my discipline are adequately supervised	3.44	0.50

Source: Primary Data, 2023

Table 3. The lowest mean scores of nurses' attitudes toward patient safety culture

No	Dimensions	Mean	S.D.
1	I have the support I need from other personnel to care for patients	2.48	0.95
2	In this unit, it is easy to discuss errors.	2.94	0.90
3	In this unit, it is easy to speak up if I perceive a problem with patient care	3.07	0.85
4	This hospital does a good job of training new personnel	3.11	0.64
5	The physicians and nurses here work together as a well-coordinated team	3.18	0.77
6	This hospital constructively deals with problem physicians and employees	3.21	0.71

Source: Primary Data, 2023

Patient safety has been a major healthcare challenge since incidents have received increased attention in recent years. It is the shared attitudes, beliefs, values, and assumptions that underlie how people perceive and act upon safety issues within their organizations. Patients could receive safer care, fewer medical errors, fewer days of hospitalization, and better outcomes when nurses had a high level of attitude regarding safety. Our study indicated a high mean score of attitudes towards patient safety culture among pediatric nurses (mean = 3.30/4.00). This finding is relevant to previous studies. According to Salih et al. (2021), the mean score of attitudes regarding patient safety among nurses was 3.00/4.00 among the participants (Salih et al., 2021). Consistently, a descriptive cross-sectional study conducted with 386 registered nurses working at the University of Gondar specialized hospital indicated that 56.1% of the respondents had a favorable attitude regarding patient safety (Biresaw et al., 2020).

Similarly, the findings from a study by Moda et al. (2021) showed a high score and positive mean in nurses' attitudes regarding patient safety culture. They also revealed that developing positive attitudes of safety culture in healthcare organizations was an important pillar, as it strives to eliminate the factors that contribute toward the management of mental and physical exhaustion, medical errors, patient harm, unsafe conditions, and the enhancement of overall patient safety (Moda et al., 2021). When we

considered the mean score among domains of safety culture, the domain of stress recognition had the highest score, while teamwork climate and work conditions had the lowest. The difference between the mean scores among these subscales might come from the requirement to achieve these dimensions.

Research conducted by (Kanneganti et al., 2022) in 23 hospitals in four countries (Indonesia, Singapore, India, and Malaysia) found a significant correlation among poor safety attitudes with shifts lasting longer than 12 hours, fatigue, and depression. Fatigue is correlated with mental health problems, decreased cognitive function, as well as a loss of focus and alertness. It has been linked to lower patient safety and subpar nursing performance (Bell et al., 2023; H. Cho & Steege, 2021). Factors that contribute to fatigue in nurses are aspects of workload, shift work, such as disruptions to the circadian cycle, nurse shift length, and overtime (Bell et al., 2023; Jarrar et al., 2019). As a nurse, especially a nurse working in a stressful environment such as hospitals, being aware of occupational stress and how nurses performances in stressful working environments are influenced by occupational stressors is a common requirement, and most nurses prepare themselves for that. It will need a few interventions to help this situation. This includes promoting a healthy lifestyle through health programmes, enhancing work-life balance, and creating stress management programmes.

Effective teamwork is a complex process that requires more practice and effort not only from nurses but also from other healthcare workers, especially physicians (Alzahrani et al., 2019). Our findings indicate the importance of creating a culture of safety and teamwork climate to improve nurses' satisfaction and retention as well as patient outcomes in hospitals. The nurse managers need to identify the aspects requiring qualifications in order to aggregate actions with the potential to improve safety culture for staff and safety care for patients. Besides, when referring to the score of each item, we found that the weakest component of the teamwork climate domain is "I have the support I need from other personnel to care for patients", with the lowest mean score. The reason might come from the gap of cooperation in healthcare institutions.

Patient care has become increasingly complex as healthcare units strive to meet the full spectrum of patient needs. This can be challenging for healthcare workers to adapt to. In that stressful situation, anxiety, depression, aggressiveness, narcissism, and current events influencing mood, attitude, and actions also contribute to ineffective communication and sharing. It might proceed to decrease the amount of support among healthcare workers (Berry et al., 2020; Kairytė et al., 2022). According Thu et al. (2023), there is a need for improvement in two areas: organizational learning and communication openness. These two areas are closely linked to the culture of patient safety and knowledge sharing among healthcare providers.

With all that is discussed in this study, working as a well-coordinated team among nurses at pediatric hospitals is an issue that needs to be improved. Moreover, cultural background, organizational policy, and leadership are also correlated with the enhancement of the safety climate in healthcare institutions. These reasons might explain the different mean scores on these dimensions of self-assessed safety culture among pediatric critical care nurses in selected government tertiary hospitals. Based on this result, the improvement of work conditions, collaboration, and collegiality in order to secure support from other personnel to care for patients should be considered.

3.3. Factors Related To Attitudes Toward Patient Safety Culture Among Pediatric Nurses

The results revealed that there was no association between gender and attitudes towards patient safety culture among pediatric nurses (p>0.05). The level of education was significantly associated with safety attitudes among nurses. These findings were shown in Table 4. Besides, the finding of the one-way ANOVA test indicated that experience in year was related to attitudes towards patient safety culture among nursing participants, with the p-value of 0.003 (Table 5).

Table 4. Associations Between Gender, Level of Education, and Attitudes Towards Patient Safety Culture Among Pediatric Nurses

Variables		Attitudes towards patient safety culture	p-value One-way ANOVA
Gender	Male (n=29)	3.32+0.37	0.83
	Female (n=76)	3.30+0.47	
Level of education	Intermediate (n=8)	2.98+0.45	0.006
	College (n=27)	3.13+0.43	
	Bachelor (n=58)	3.41+0.42	
	Postgraduate (n=12)	3.41+0.44	

Source: Primary Data, 2023

Table 5. Association Between Experience in Year And Attitudes Towards Patient Safety Culture Among Pediatric Nurses

Variables		Attitudes towards patient safety culture	p-value
Experience in year	<3 years (n=11)	2.68+0.15	0.003 (ANOVA)
	3-5 years (n=21)	3.17+0.44	
	5-10 years (n=41)	3.27+0.44	
	>10 years (n=32)	3.47+0.40	

Source: Primary Data, 2023

In the present study, there were statistically significant associations between nurses' attitudes regarding patient safety culture and their level of education as well as their experience in year. In other words, pediatric nurses' attitudes regarding patient safety culture were different among groups by level of education and experience. Meanwhile, there was no relationship between gender and safety attitudes among nurses.

The relationships between safety attitudes among nurses and levels of education and experience were also revealed in previous studies. A study conducted by 350 nurses working at a university hospital in Egypt indicated that educational level and experience were the main factors related to patient safety attitudes, while gender had no significant association with the attitudes (Salih et al., 2021). Compared to less experienced healthcare practitioners, experienced healthcare providers exhibit greater attitudes towards patient safety (Bottcher et al., 2019; Elsous et al., 2017; Jarrar et al., 2020). This result was similar to that of (Al-Mugheed et al., 2022), who found that younger nurses had lower scores of safety attitudes than those who had more experience.

Nurses' professional characteristics, including education and experience, as well as nursing systems that pertain to staffing levels, have an impact on the quality of care they provide. For example, it is thought that having a larger percentage of baccalaureate-degree holders among registered nurses (RNs) in hospitals will help with effective adverse event detection and prevention because these RNs will have greater knowledge, more effective communication skills, and the capacity to monitor patients (Audet et al., 2018; Liao et al., 2016). In the same way, more experience is considered to expose RNs to a variety of patient situations and clinical scenarios that foster the growth of knowledge, technical proficiency, and critical thinking. These factors are also thought to have an impact on how well nurse surveillance works (Audet et al., 2018; Stalpers et al., 2015). In addition to nurse characteristics, some factors that play a role in quality of care are the workplace environment, including the physical environment, communication and collaboration systems, and related support services (Malinowska-Lipień et al., 2021).

4. Conclusion

In the present context, most of the pediatric nurses had a high mean score of attitudes towards patient safety culture. However, work conditions and teamwork in caring for patients should be enhanced. Workload calculations also need to be considered to prevent burnout in nurses. Continued education and training towards patient safety need to be provided, especially for young nurses and nurses with intermediate or college diplomas. Furthermore, our findings make it particularly important to design specific interventions to enhance the work conditions and teamwork climate in clinical institutions.

Acknowledgements

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