



# Patient Safety Attitudes Among Intensive Care Unit Nurses in an Indonesian Islamic Hospital: A Mixed-Methods Study

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<p><b>Track Record Article</b></p> <p>Revised: 5 January 2026 Accepted: 26 February 2026 Published: 31 March 2026</p> <p><b>How to cite :</b> Sutopo, T., &amp; Dewi, A. (2026). Patient Safety Attitudes Among Intensive Care Unit Nurses in an Indonesian Islamic Hospital: A Mixed-Methods Study. <i>Contagion : Scientific Periodical of Public Health and Coastal Health</i>, 8(1), 64–78.</p>	<p style="text-align: center;"><b>Abstract</b></p> <p><i>Patient safety culture plays a crucial role in intensive care units (ICUs), where nurses play a central role in ensuring safe and quality care. Evaluation of patient safety attitudes in nurses is important to reduce medical errors and improve service quality. This study aims to evaluate patient safety attitudes in nurses in the ICU of an Islamic hospital and propose a strategy for improvement based on the Theory of Planned Behavior (TPB). Mixed-methods with a sequential explanatory model approach, using the Safety Attitudes Questionnaire (SAQ-INA). Quantitative data from ICU nurses were complemented by qualitative interviews, analyzed using the TPB framework. The number of respondents in this study was 14 respondents from both quantitative and qualitative research. ICU nurses showed a positive attitude with high scores on the teamwork climate (82.7%), safety climate (76.3%), and job satisfaction (90.4%). However, low scores on stress recognition (61.6%), unit management perception (66.8%), hospital management (68.6%), and working conditions (74.1%) indicate challenges such as high workload, staff shortages, and lack of management support. The qualitative findings emphasize the need for non-punitive reporting and collaboration between professions. ICU nurses are strongly committed to patient safety, but stress and resource limitations hinder them. Recommendations include stress management training, non-punitive reporting systems, management engagement, and resource optimization to strengthen patient safety attitudes.</i></p> <p><b>Keywords:</b> <i>Patient Safety Attitudes, ICU Nurses, Safety Attitudes Questionnaire, Theory of Planned Behavior.</i></p>
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## INTRODUCTION

Patient safety culture has become a major focus in the healthcare sector and has received attention in various countries over the last decade (Olesen et al., 2024). Patient safety culture can be understood as a set of values, attitudes, beliefs, and behaviors shared by healthcare providers in the process of ensuring patient safety (Huang et al., 2022). Understanding patient safety culture is essential for improving the workforce's undesired values, attitudes, and behaviors, such as miscommunicating about unfavorable events and preserving the standard of care (Yesilyaprak & Demir Korkmaz, 2023).

Currently, a lot of work is being done to raise hospital care standards and patient safety. The "quality-safety" paradigm has supplanted the "quality" approach in many developed nations. This idea encompasses both preserving patient safety and continuously raising the standard of care. Safety is now a major concern everywhere, especially in medical facilities (Mandriani et al., 2019). In response to this challenge, the World Alliance for Patient Safety

was established in 2004 by the World Health Organization (WHO), an initiative that collaborates with various countries to improve patient safety in healthcare facilities (Hanafi, 2020).

Regulation of the Minister of Health No. 11 of 2017 concerning Patient Safety in Hospitals, issued by the Ministry of Health of the Republic of Indonesia, serves as the main standard for patient safety practices in Indonesian hospitals (Kemenkes, 2017). This regulation provides guidance for hospital management in applying the principles of patient safety across the board. Although hospitals in Indonesia strive to improve patient safety, the success of these efforts depends on hospital management's understanding of patient safety principles (Hanafi, 2020).

Several patient safety programs have been successfully launched in the United States, helping change perspectives. One of them is an effort to create a culture of patient safety, requiring teamwork, better leadership support, and changing the focus of individual blaming behavior into a weakness of a system (Ahmed et al., 2023). Despite global efforts to reduce harm to patients, it remains a significant public health challenge, ranking at the top among the leading causes of disability and death worldwide (Abuosi et al., 2022). Every year, about 421 million people are hospitalized worldwide, 42.7 million of whom experience adverse events during hospitalization. It is estimated that 1 in 10 patients admitted to advanced healthcare facilities have an injury, with at least 50% of these cases preventable (Yayehrad et al., 2024). More than 1 in 10 patients continue to be harmed by safety negligence during their treatment. Globally, unsafe care results in more than 3 million deaths each year. In developing countries, as many as 4 out of 100 people die from unsafe care, and a study found that 38.8% of adverse events occurred during 100 days in the ICU (Ein-Gal et al., 2023).

In recent times, the safety of patients of all ages has become of paramount importance for the quality of healthcare worldwide (Sarhadi et al., 2023). Improved quality in the Intensive Care Unit (ICU), enhanced health care assurance, and reduced outages are additional benefits of activities focused on patient safety. In line with that, various recent studies show that healthcare workers, particularly ICU nurses, play a crucial role in maintaining patient safety through the professional attitudes, perceptions, and behaviors shown during service delivery (Yayehrad et al., 2024).

Research by Olesen et al. (2024) found that safety attitudes significantly affect the low rate of medical errors by promoting effective communication and adherence to safety procedures. Likewise, Gleeson et al. (2023) emphasized that nurses' safety attitudes are greatly influenced by the work climate, management conditions, work stress, and high workload in

intensive care units. To assess these safety attitudes, the most widely used instrument is the Safety Attitudes Questionnaire (SAQ), which measures six dimensions: teamwork climate, safety climate, job satisfaction, stress recognition, perceptions of management, and working conditions.

Intensive Care Unit (ICU) patient safety is still a major concern worldwide because critically ill patients are disproportionately vulnerable to avoidable adverse events, medication mistakes, and equipment malfunctions. Through interdisciplinary collaboration, rapid clinical decision-making, and ongoing monitoring, nurses are essential to ensuring patient outcomes in high-risk settings such as intensive care units. Though studies on safety culture have expanded globally, there is still a dearth of empirical data from low- and middle-income nations, especially Indonesia. This disparity is even more noticeable in institutions with Islamic affiliations, which make up a significant and growing portion of the Indonesian healthcare system.

Organizational values, accreditation performance, and service quality indicators have been the main subjects of previous research in Indonesian Islamic hospitals. However, these institutional indicators do not always correspond to safe bedside care practices. Critical predictors of behaviors like following standard operating procedures, reporting incidents, and communicating in teams are nurses' safety attitudes, which reflect their cognitive, normative, and perceived control orientations toward patient safety. Theoretical knowledge and useful tactics for enhancing safety culture in high-risk units are thus constrained by the lack of targeted research on ICU nurses' safety attitudes.

Furthermore, the majority of previous research has used descriptive quantitative methodologies, which provide little explanation for why some safety parameters perform below expectations. The Theory of Planned Behavior (TPB), which offers a strong mechanism for connecting attitudes, subjective norms, and perceived behavioral control to safety-related intentions and actions, is rarely combined with the Safety Attitudes Questionnaire (SAQ), despite the fact that it is widely used. In the absence of this theoretical integration, empirical results risk remaining superficial and inadequate to guide managerial and policy actions.

There is still a lack of research on the relationship between faith-based values and behavioral determinants of safety attitudes in the setting of Islamic hospitals, where organizational principles prioritize moral accountability, excellence (ihsan), and trust (amanah). Designing culturally sensitive and context-based patient safety solutions requires an understanding of this interaction. Furthermore, it is still difficult to find concrete evidence in

favor of measures like improving management-staff relationships, stress reduction in critical care settings, and non-punitive reporting systems.

To address these important gaps, this study uses a mixed-method, sequential, explanatory design that combines qualitative research guided by TPB with quantitative SAQ analysis. In addition to offering policy-relevant recommendations to improve ICU safety culture in Indonesian Islamic hospitals, this research advances patient safety theory in non-Western contexts by shifting from descriptive measurement toward explanatory and contextual knowledge.

## METHODS

This study employed a sequential explanatory mixed-methods design, consisting of a cross-sectional quantitative phase followed by a qualitative phase. This research was conducted in April-May 2025, and the research location was in the ICU of a type C Islamic hospital with a total of 10 beds. The quantitative approach applied is descriptive, aiming to describe patient safety attitudes based on six main dimensions measured through the Safety Attitude Questionnaire (SAQ) instrument: teamwork climate, safety climate, job satisfaction, stress recognition, management perception, and working conditions. The research population consists of all nurses who serve in the Intensive Care Unit (ICU) of the *Islamic Hospital*, a total of 14 people. Because the population is small, a total sampling technique is used, ensuring that the entire population is represented by respondents. The SAQ-INA instrument is valid, as validated by Ningrum et al. (2019). The data collection technique in this study used the Safety Attitudes Questionnaire (SAQ), which was compiled in Google Form format. To determine the percentage of respondents expressing a positive attitude, one would examine the proportion of respondents who achieved a scale score of 75 or higher. A score of 75 on the scale is equivalent to "slightly agree" on the original 5-point Likert scale (1 = Strongly Disagree, 2 = Slightly Disagree, 3 = Neutral, 4 = Slightly Agree, 5 = Strongly Agree). Converting to a 100-point scale, the following values are assigned: 1 = 0, 2 = 25, 3 = 50, 4 = 75, 5 = 100. Respondents are considered to have a positive attitude if the percentage of respondents achieving a scale score of 75 or higher. A score of 75 on the scale represents the same result as "agree" on the Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). In accordance with the conversion to a 100-point scale, the following values are assigned: 1=0, 2=25, 3=50, 4=75, 5=100.

In data processing, the results of the SAQ questionnaire were processed descriptively by calculating the average score for each dimension, categorizing the level of safety attitudes,

and testing the validity and reliability of the instrument. The qualitative approach was carried out through in-depth interviews with selected ICU nurses, using purposive sampling based on at least 1 year of work experience and the ability to provide relevant information on patient safety. The number of informants is determined by the principle of data saturation, i.e., until no new information is found. Data were collected through semi-structured interviews with a minimum duration of 35 minutes, ensuring more in-depth information and reflecting the real experiences of the informants in implementing patient safety in the ICU. The interviews were conducted face-to-face, recorded with the consent of the informant, then transcribed and analyzed using the Miles and Huberman analysis model, namely data reduction, data presentation, and conclusion drawing and verification. This analysis is used to reinforce and provide context for quantitative results, enabling a comprehensive understanding. The integration of the two methods is carried out at the interpretation stage, where quantitative results serve as the basis for preparing qualitative questions, and the results of the two are combined to build a more complete conclusion. This research has also received ethical approval from the Research Ethics Committee 013/Diklat.RSIP/III/2025 was issued on March 13, 2025, and all respondents provided informed consent and are guaranteed confidentiality, anonymity, and the right to resign at any time.

## RESULTS

**Table 1. Characteristics of Quantitative Research Respondents**

Research Variables	Amount	Percentage (%)
<b>Age</b>		
25–30 years	6	42.9
31–35 years	1	7.1
36–40 years	4	28.6
41–45 years	1	7.1
46–50 years	2	14.3
<b>Gender</b>		
Male	6	42.9
Female	8	57.1
<b>Education</b>		
Diploma (D1, D2, D3)	3	21.4
Bachelor's Degree (D4/S1)	4	28.6
Professional Nursing Degree	7	50
<b>Years of service</b>		
< 5 years	5	35.7
> 5 years	9	64.3

The study involved 14 ICU nurses with varying ages, genders, levels of education, and work experience. Most respondents were female (57.1%) and dominated by the 25–30-year-old age group (42.9%). In terms of education, the majority were nursing graduates

(50%). The majority had worked for more than 5 years (64.3%), indicating sufficient experience in patient safety implementation. This combination of characteristics indicates that ICU nurses have an adequate competency background to support a culture of patient safety.

**Table 2. Summary of Attitude Dimension Score to Patient Safety**

Dimensions of Attitude to Patient Safety	Average Score
Teamwork Climate	82.7
Safety Climate	76.3
Job Satisfaction	90.4
Stress Recognition	61.6
Management Perception	
Unit Management	66.8
Hospital Management	68.6
Working Conditions	74.1

The Safety Attitudes Questionnaire (SAQ-INA) was used in Indonesia to assess patient safety attitudes. It measures six aspects: working environment, stress recognition, job satisfaction, teamwork climate, safety climate, and management perception. The tool is especially useful in intensive care units, as it can capture nurses' opinions on safety culture in high-risk clinical settings. However, overall safety attitudes among ICU nurses were at a moderate level, with the majority of nurses (79%) classified as having moderate safety attitudes, 14% in the low group, and 7% in the high category. Among all aspects, job satisfaction had the highest score (90.4), followed by safety climate (76.3) and teamwork climate (82.7), indicating a good safety culture and great collaboration within the unit. However, the ratings for management perception (66.8–68.6) and stress detection (61.6) were somewhat lower, indicating areas that need improvement, especially in managerial assistance and stress management. Although the Islamic hospital's ICU patient safety culture appears mostly established, improving management involvement and addressing work-related stress remain top concerns.

**Table 3. Characteristics of Qualitative Research Informants**

Category	Information	Total (n=16)	Percentage (%)
Role/Position	ICU Nurse	14	87.5
	Assistant Nursing Manager, Division II	1	6.3
	Chair of the Patient Safety Subcommittee	1	6.3
Age (years)	25–30	6	37.5
	31–35	1	6.3
	36–40	4	25.0
	41–45	2	12.5
	46–50	3	18.7
Gender	Male	8	50.0
	Female	8	50.0
Education	Diploma (D1, D2, D3)	3	18.7
	Bachelor's Degree (D4/S1)	5	31.3
	Professional Nursing Degree	8	50.0
Years of service	< 5 years	5	31.3
	≥ 5 years	11	68.7

This qualitative research involved 16 informants, consisting of 14 ICU nurses as the main informants and 2 supporting informants, namely the Assistant Manager of Nursing Field II and the Chairman of the Patient Safety Subcommittee, who were included as key informants to provide in-depth and expert insights relevant to the study and who played a role in providing a managerial perspective for the purpose of data triangulation. Most informants were clinical ICU staff of productive age, reflecting a workforce prepared to face intensive work demands. The gender composition was balanced, and the majority had professional education and  $\geq 5$  years of service, so their insights reflected strong experience and competence in implementing patient safety in the ICU.

This qualitative study aims to explore ICU nurses' understanding and experience of patient safety at Islamic Hospital, using thematic analysis grounded in the Theory of Planned Behaviour (TPB). This approach allows researchers to deeply understand how attitudes, subjective norms, and perceptions of behavior control affect nurses' intentions and actions in ensuring patient safety in the intensive care unit.

The main data were obtained through in-depth interviews with ICU nurses, who served as the main informants. To improve the validity of the findings, source triangulation was carried out by interviewing the Chairman of the Patient Safety Subcommittee and the Assistant Manager of Nursing Field II. This process yields a rich narrative of nurses' challenges, motivations, and expectations in a stressful ICU environment. Thematic analysis is carried out through systematic steps according to Braun and Clarke, starting from data familiarization, initial coding, theme identification, and the preparation of the main themes and sub-themes according to the TPB framework. The thematic coding structure used in this study is presented in the following table.

**Table 4. Thematic Coding Structure of Patient Safety Attitudes**

Main Theme	Sub-Theme	Main Code	Example of an Informant Statement Quote (Live Excerpt)
Professional attitude towards patient safety	Positive belief in patient safety	Professional commitment	<i>"Nurses are proud to be able to contribute to saving patients, especially those in the ICU. Furthermore, there's a sense of satisfaction when a patient is saved, and when the actions taken align with the doctor's goals." (I4)</i>
		Emotional satisfaction	<i>"The feeling of pride and satisfaction when a patient... when they are having trouble breathing, we put on an ETT, resume breathing when the patient is conscious, and move to another room, that is a satisfaction in itself." (I2)</i>
		Motivation to prevent mistakes	<i>"There must be a sense of belonging in the work environment, and the team must be truly embraced, so that</i>

Main Theme	Sub-Theme	Main Code	Example of an Informant Statement Quote (Live Excerpt)
			<i>cooperation is strong, and there must be no blaming, and that's what reminding each other is all about." (I13)</i>
		Stress management	<i>"I'm confused, sir, what should I do after this? I'm confused about what to do with the patient, and then I go blank... That's because I'm tired, and usually because there are a lot of patients, the work level has to be really optimal." (I13)</i>
	Impact of stress on patient safety performance	Mistakes due to stress	<i>"At the time, I was so stressed and exhausted that I almost forgot to verify the dosage of the medication I was given. Luckily, I realized it quickly and asked a colleague to double-check the medication." (I8)</i>
		Disruption of focus	<i>"High stress, lots of patients, and fatigue because there are lots of patients and lots of programs, so in the end, you're exhausted and don't have time to rest, for example, you drink until you forget, and then human error occurs, resulting in a lack of focus in treatment." (I6)</i>
		Team collaboration	<i>"Fortunately, my team of colleagues immediately corrected me, telling me that it was an incorrect input in the patient's vital signs." (I12)</i>
	Peer support	Non-punitive culture	<i>"We are aware that we may have made a mistake, but we are afraid that when we report it, the follow-up will not be to improve things but to be blamed, punished, punished." (I4)</i>
		Remind each other	<i>"Not blaming each other, but that's what we're reminding each other about." (I13)</i>
Patient safety culture and support		Management involvement	<i>"He's very open about patient safety, sir. He often reminds us of the importance of patient safety, but he's not always there in critical situations." (I12)</i>
	Management expectations	Management feedback	<i>"From the hospital side, they sometimes give a response, but that response sometimes doesn't include a term, a solution." (I3)</i>
		Management policy	<i>"The policy itself is quite complete in terms of documentation, but in some cases its implementation is not yet consistent." (I14)</i>
	Management support	Indirect management support	<i>"The reporting system has been created to make it easier for staff to make reports, there are several cases where reports related to patient safety incidents have become a problem so they are not reported to the committee." (T2)</i>
Resource availability and control	Availability of resources	Staff shortage	<i>"So far, the staff has not been sufficient, very, very much so. The impact could be that, for example, if there are a lot of patients, there are a lot of procedures, so we become stressed, confused, what to do, so if it's like that, the actions will be slow." (I13)</i>

Main Theme	Sub-Theme	Main Code	Example of an Informant Statement Quote (Live Excerpt)
		Tool limitations	<i>"It's still not fully adequate. Equipment like the syringe pumps aren't working properly, and the number of ventilators isn't optimal either, and sometimes some ventilators are even broken." (I14)</i>
		New staff training	<i>"Training for new staff needs to be more intensive... they need longer support to develop their daily work habits in the ICU because the ICU is different from regular wards." (I10)</i>
	Training and supervision	Intensive mentoring	<i>"New staff in the ICU may need more guidance than senior staff to build habits and confidence in working, especially in handling critical emergency patients." (I9)</i>
		Safety training	<i>"Training for new staff has been going quite well, sir, but it is more focused on technique. Overall patient safety needs to be improved even though there has been an initial orientation for new employees." (I12)</i>

The table shows the process of categorizing interview data into key themes relevant to the TPB framework. Each key code reflects the essence of the narrative conveyed by the informant, ranging from professional commitment and stress challenges to peer support, management involvement, resource availability issues, and training needs. This method ensures that the analysis not only emphasizes on the theoretical aspects but also describes the real conditions that nurses face in the field, including their obstacles, motivations, and expectations in enforcing a culture of safety. The next section will elaborate in depth on the qualitative findings based on these themes to provide a more complete understanding of the dynamics of patient safety in the ICU.

## DISCUSSION

The evaluation results showed that the ICU nurse team's work climate was in the positive category, especially regarding cooperation, communication, and service coordination. These findings indicate that ICUs already have a strong foundation of teamwork, an important element in improving service quality. Theoretically, a strong team climate plays a significant role in the effectiveness of ICU services, especially in supporting quick, precise decision-making. This is in line with Chen & Gong (2022), who assert that effective collaboration can reduce the risk of clinical errors and improve the efficiency of medical procedures. In addition, a supportive work environment impacts patient safety and the welfare of health workers. However, the study also found that not all aspects of collaboration run optimally. There are still obstacles to expressing opinions on patient care issues, indicating psychological

constraints or work structures that do not fully support inclusivity. This condition is in line with the findings of Thethwayo et al. (2024) that communication between professions in ICUs is often limited due to hierarchical organizational structures. The success of teamwork is largely determined by the organizational system that supports it. Factors such as consistent supervision, role clarity, and interprofessional training contribute to effective team coordination. Permanasari & Oktamianti (2022) emphasized that collaborative organizational structures, teamwork training, and daily briefings have been proven to improve the quality of clinical interactions and decision-making. Therefore, hospital management support is crucial to ensure the creation of a safe and efficient work environment.

The study found that the safety climate in the ICU of Islamic Hospital was in the “quite good” category, with most nurses reporting a positive perception of the importance of patient safety. These findings align with previous research indicating that perceptions of safety are influenced by workload factors, management support, and clinical experience (Hong, 2025). A high score on the medical error handling indicator indicates that the unit's incident reporting system has been effective, consistent with Fukami et al. (2020) study, which emphasizes the importance of clear, non-punitive reporting mechanisms. However, Lee et al. (2024) found variation in perceptions among nurses, especially regarding the influence of work stress and emotional fatigue. This shows the need for interventions, such as stress management training or psychological support, to reduce disparities in safety perceptions. In addition, although nurses understand the reporting pathway well, the feedback mechanism is considered not optimal. This gap aligns with the research of Noble et al. (2020), which affirms that continuous feedback and real-time information are key elements in improving communication and collaboration. A culture of learning from mistakes is beginning to develop, but openness to discussing mistakes is still limited. The study of Pfeifer et al. (2023) emphasized that the level of psychological safety plays a big role in encouraging incident reporting. The low level of support among colleagues shows that team dynamics still need strengthening. Teamwork training approaches as proposed by Alsabri et al. (2022) can aid improvement, while the implementation of Just Culture (Murray et al., 2023) is important for reducing fear of punishment and encouraging collective learning.

The evaluation of nurses' job satisfaction at the ICU of Islamic Hospital showed very positive results. Nurses generally have a high intrinsic satisfaction with their work, an important finding given the high workload in intensive care units. These results are in line with the research of Hashem & Zeinoun (2020) and the intrinsic motivation theory of Ryan & Deci (2020), which emphasize the role of personal values and love of the profession in increasing

work resilience. Pride in the institution and positive perception of the work environment are also prominent aspects. These findings support the results of Labrague et al.'s (2022) research on the role of organizational identity in work commitments and are in line with Dall'Ora et al. (2020), who highlight the importance of belonging as a coping mechanism in a stressful work environment. Strong interpersonal relationships, family atmosphere, and social support between teams are also key factors in increasing job satisfaction. This is consistent with the study by Zhang et al. (2023), which showed that a positive team climate has a direct impact on clinical resilience and performance. Overall, these findings suggest that job satisfaction at the individual level, the strength of team dynamics, and institutional pride can serve as an important basis for developing retention programs, increasing professionalism, and strengthening the quality of services in ICUs.

The results of the study show that ICU nurses face complex work stress dynamics, particularly regarding workload, fatigue, and the risk of clinical error. The majority of nurses admit that a high workload negatively impacts performance, in line with the findings of Dall'Ora et al. (2020), who reported that excessive workload increases the risk of reduced quality of care and medical errors. This also reinforces the theory of Conservation of Resources, which explains that prolonged stress drains the psychological resources of health workers. Burnout emerged as an important factor that affects work effectiveness. The study's findings align with Jun et al.'s (2021) research, which showed that emotional fatigue can reduce clinical alertness. Variations in coping ability among nurses were also identified, as reported by Gómez-Salgado et al. (2020), with differences in psychological resilience. Tense work situations in the ICU were found to be a significant risk factor for clinical error, supporting a study by Byrne et al. (2020) that revealed that acute stress can interfere with cognitive function and decision-making. This condition confirms the importance of maintaining patient safety through better stress management. In practical terms, these findings emphasize the need for the development of stress management programs at the individual level, a review of the distribution of workload and psychological support at the organizational level, as well as the implementation of stricter mental health protection standards at the policy level, as recommended in previous research.

The evaluation of nurses' perceptions of management at the ICU of Islamic Hospital found a significant gap between staff expectations and the support provided by management. At the unit level, nurses reported that managerial support for daily clinical activities remained lacking, consistent with the findings of Colbenson et al. (2021), who linked the lack of frontline support to increased burnout. Unit management's response to patient safety issues was also

considered inadequate, reflecting the challenges of safety culture as described by Aldawood et al. (2020). Communication gaps also undermine teamwork effectiveness in the ICU environment. At the hospital management level, nurses feel there is a mismatch between top management's understanding and operational conditions on the ground. This is in line with the findings of Alsaqqa (2023) regarding the perception gap between executives and clinical staff. Ineffective problem-solving mechanisms underscore the need for a more participatory approach to conflict management, as recommended by Raykova & Semerdjieva (2019). Comparatively, unit management is considered more attuned to field conditions but has limitations in making strategic changes. In contrast, hospital management has greater authority but is less connected to the dynamics of daily operations. Therefore, it is necessary to strengthen unit managers' capacity for transformational leadership (Aung & Preudhikulpradab, 2021) and to develop feedback and knowledge management systems at the hospital level to improve collaboration and service quality (Schneider et al., 2024).

The assessment of intensive care unit working conditions uncovered issues with staffing levels and workload imbalance, which could raise the risk of burnout and jeopardize patient safety. These results align with previous research that shows lower clinical outcomes are associated with insufficient nurse-patient ratios. However, access to clinical information systems and orientation programs was seen favorably, indicating that digital assistance and professional preparation enhance the quality of care. These findings demonstrate the importance of maintaining nurse well-being and service quality through strategic workforce planning, improved mentoring, and ongoing improvements to information systems.

Perceived behavioral control, attitudes, and subjective standards all influence ICU nurses' safety procedures, according to the Theory of Planned Behavior (TPB). Subjective norms and behavioral control may be weakened by a lack of administrative support and stress management, despite the seemingly strong professional commitment to patient safety. As a result, solutions ought to concurrently improve interprofessional collaboration, maintain sufficient staffing and resources, promote a culture of non-punitive reporting, reinforce stress management, and offer ongoing safety training. To maintain a long-lasting patient safety culture and encourage continuous quality improvement in the intensive care unit, organizational tactics must be in line with TPB structures.

## CONCLUSIONS

According to this study, ICU nurses at the Islamic Hospital generally have positive attitudes toward patient safety, especially regarding teamwork, safety climate, and job satisfaction. This shows a strong commitment to their profession and productive teamwork. Significant obstacles still exist, such as excessive stress, heavy workloads, limited resources, and a lack of managerial support. When SAQ results are combined with the Theory of Planned Behavior (TPB), it becomes clear that organizational circumstances and the workplace have a significant impact on nurses' attitudes, subjective norms, and perceived behavioral control. Lower ratings for working conditions, management perception, and stress awareness indicate the need for more systematic managerial intervention. Promoting learning and averting safety issues needs bolstering open communication and a non-punitive reporting culture. Comprehensive reinforcement of patient safety culture is advised through strategic initiatives such as structured stress management training, improved interprofessional collaboration, regular managerial feedback, adequate resource provision, ongoing patient safety education, and mentorship programs for new nurses. Despite the ICU's reasonably well-established safety culture, long-term organizational dedication is required to attain the best possible patient safety results.

## REFERENCE

- Abuosi, A. A., Poku, C. A., Attafuah, P. Y. A., Anaba, E. A., Abor, P. A., Setordji, A., & Nketiah-Amponsah, E. (2022). Safety culture and adverse event reporting in Ghanaian healthcare facilities: Implications for patient safety. *Plos One*, *17*(10), e0275606.
- Ahmed, F. A., Asif, F., Munir, T., Halim, M. S., Ali, Z. F., Belgaumi, A., Zafar, H., & Latif, A. (2023). Measuring the patient safety culture at a tertiary care hospital in Pakistan using the Hospital Survey on Patient Safety Culture (HSOPSC). *BMJ Open Quality*, *12*(1).
- Aldawood, F., Kazzaz, Y., AlShehri, A., Alali, H., & Al-Surimi, K. (2020). Enhancing teamwork communication and patient safety responsiveness in a paediatric intensive care unit using the daily safety huddle tool. *BMJ Open Quality*, *9*(1).
- Alsabri, M., Boudi, Z., Lauque, D., Dias, R. D., Whelan, J. S., Östlundh, L., Alinier, G., Onyeji, C., Michel, P., & Liu, S. W. (2022). Impact of teamwork and communication training interventions on safety culture and patient safety in emergency departments: a systematic review. *Journal of Patient Safety*, *18*(1), e351–e361.
- Alsaqqa, H. H. (2023). Healthcare organizations management: Analyzing characteristics, features and factors, to identify gaps “scoping review.” *Health Services Insights*, *16*, 11786329231168130.
- Aung, S. T., & Preudhikulpradab, S. (2021). The middle managers' essential leadership styles: A case of global technology company in Myanmar. *AU-GSB E-Journal*, *14*(1).
- Byrne, K. A., Peters, C., Willis, H. C., Phan, D., Cornwall, A., & Worthy, D. A. (2020). Acute stress enhances tolerance of uncertainty during decision-making. *Cognition*, *205*, 104448.

- Chen, Y., & Gong, Y. (2022). Teamwork and patient safety in intensive care units: challenges and opportunities. *Studies in Health Technology and Informatics*, 290, 469.
- Dall'Ora, C., Ball, J., Reinius, M., & Griffiths, P. (2020). Burnout in nursing: a theoretical review. *Human Resources for Health*, 18(1), 41.
- Ein-Gal, Y., Sela, R., Arad, D., Kravitz, M. S., Hanhart, S., Goldschmidt, N., Kedmi-Shahar, E., & Bitan, Y. (2023). Translation and Comprehensive Validation of the Hebrew Survey on Patient Safety Culture (HSOPS 2.0). *Journal of Patient Safety*, 10–1097.
- Fukami, T., Uemura, M., & Nagao, Y. (2020). Significance of incident reports by medical doctors for organizational transparency and driving forces for patient safety. *Patient Safety in Surgery*, 14(1), 13.
- Gleeson, L. L., McNamara, J., Donworth, E., Crowley, E. K., Delaney, A., Sahm, L., O'Mahony, D., Russell, N. E., & Byrne, S. (2023). Healthcare provider perceptions of safety culture: A multi-site study using the safety attitudes questionnaire. *Exploratory Research in Clinical and Social Pharmacy*, 9, 100228.
- Gómez-Salgado, J., Andrés-Villas, M., Domínguez-Salas, S., Díaz-Milanés, D., & Ruiz-Frutos, C. (2020). Related health factors of psychological distress during the COVID-19 pandemic in Spain. *International Journal of Environmental Research and Public Health*, 17(11), 3947.
- Hanafi, A. Z. P. D. (2020). *Analisis Implementasi Sasaran Keselamatan Pasien Di Rumah Sakit Umum Daerah Kota Makassar Tahun 2020* [Doctoral dissertation]. Universitas Hasanuddin.
- Hashem, Z., & Zeinoun, P. (2020). Self-compassion explains less burnout among healthcare professionals. *Mindfulness*, 11(11), 2542–2551.
- Hong, K. J. (2025). Patient safety management activities and perceived workload of shift-work nurses, moderated by the perceived importance of patient safety management. *International Nursing Review*, 72(3), e13069.
- Huang, H., Xiao, L., Chen, Z., Cao, S., Zheng, S., Zhao, Q., & Xiao, M. (2022). A national study of patient safety culture and patient safety goal in Chinese hospitals. *Journal of Patient Safety*, 18(8), e1167–e1173.
- Jun, J., Ojemeni, M. M., Kalamani, R., Tong, J., & Crecelius, M. L. (2021). Relationship between nurse burnout, patient and organizational outcomes: Systematic review. *International Journal of Nursing Studies*, 119, 103933.
- Kemenkes. (2017). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 11 Tahun 2017 Tentang Keselamatan Pasien*. Occupational Medicine. Indonesia.
- Labrague, L. J., Al Sabei, S., Al Rawajfah, O., AbuAlRub, R., & Burney, I. (2022). Interprofessional collaboration as a mediator in the relationship between nurse work environment, patient safety outcomes and job satisfaction among nurses. *Journal of Nursing Management*, 30(1), 268–278.
- Lee, J., Resick, C. J., Allen, J. A., Davis, A. L., & Taylor, J. A. (2024). Interplay between safety climate and emotional exhaustion: effects on first responders' safety behavior and wellbeing over time. *Journal of Business and Psychology*, 39(1), 209–231.
- Mandriani, E., Hardisman, H., & Yetti, H. (2019). Analisis Dimensi Budaya Keselamatan Pasien Oleh Petugas Kesehatan di RSUD dr Rasidin Padang Tahun 2018. *Jurnal Kesehatan Andalas*, 8(1), 131–137.
- Murray, J. S., Clifford, J., Larson, S., Lee, J. K., & Sculli, G. L. (2023). Implementing just culture to improve patient safety. *Military Medicine*, 188(7–8), 1596–1599.
- Ningrum, E., Evans, S., & Soh, S.-E. (2019). Validation of the Indonesian version of the Safety Attitudes Questionnaire: A Rasch analysis. *PloS One*, 14(4), e0215128.
- Noble, H. E., Scott, J. W., Nyinawankusi, J. D., Uwitonze, J. M., Kabagema, I., Maine, R. G., Riviello, R., Dushime, T., Enumah, S., & Hu, Y. (2020). The impact of data feedback

- on continuous quality improvement projects in rwanda: a mixed methods analysis. *African Journal of Emergency Medicine*, *10*, S78–S84.
- Olesen, A. E., Juhl, M. H., Deilkås, E. T., & Kristensen, S. (2024). application of the Safety Attitudes Questionnaire (SAQ) in primary care—a systematic synthesis on validity, descriptive and comparative results, and variance across organisational units. *BMC Primary Care*, *25*(1), 37.
- Permanasari, I., & Oktamianti, P. (2022). Level of Interprofessional Collaboration in Hospital Intensive Care Unit (ICU). *Syntax Literate; Jurnal Ilmiah Indonesia*, *7*(9), 15037–15051.
- Pfeifer, L., Vessey, J., Cazzell, M., Ponte, P. R., & Geyer, D. (2023). Relationships among psychological safety, the principles of high reliability, and safety reporting intentions in pediatric nursing. *Journal of Pediatric Nursing*, *73*, 130–136.
- Raykova, E., & Semerdjieva, M. (2019). Methods for managing organizational conflicts in hospital. *Knowledge International Journal*, *34*, 99–105. <https://doi.org/10.35120/kij34010099r>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 101860.
- Sarhadi, A., Farahani, A. S., Rassouli, M., Nasiri, M., Babaie, M., & Khademi, F. (2023). Determining the psychometric properties of safety attitudes questionnaire in NICUs. *BMC Psychology*, *11*(1), 211.
- Schneider, K., Williams, M., Mohr, N. M., & Ahmed, A. (2024). Rural emergency medical services clinicians' perceptions and preferences in receiving clinical feedback from hospitals: a qualitative needs assessment. *Prehospital Emergency Care*, *28*(5), 735–744.
- Thethwayo, M. S., Camp, P., Van Staden, D., Chetty, V., & Maddocks, S. (2024). Exploring interprofessional collaboration in the intensive care unit. *South African Journal of Physiotherapy*, *80*(1), 2098.
- Yayehrad, T., Getachew, Y., & Muluken, W. (2024). Patient safety culture and associated factors of regional public hospitals in Addis Ababa. *BMC Health Services Research*, *24*(1), 811.
- Yesilyaprak, T., & Demir Korkmaz, F. (2023). The relationship between surgical intensive care unit nurses' patient safety culture and adverse events. *Nursing in Critical Care*, *28*(1), 63–71.
- Zhang, Y., Guan, C., Jiang, J., Zhu, C., & Hu, X. (2023). Mediating effect of resilience on the relationship between perceived social support and burnout among Chinese palliative nurses. *Journal of Clinical Nursing*, *32*(13–14), 3887–3897.