



NURSES' KNOWLEDGE AND ATTITUDES TOWARDS PATIENT SAFETY GOALS IMPLEMENTATION IN THE PRIVATE HOSPITAL OF INDONESIA : A CROSS SECTIONAL STUDY

PENGETAHUAN DAN SIKAP PERAWAT TERHADAP IMPLEMENTASI TUJUAN KESELAMATAN PASIEN DI RUMAH SAKIT SWASTA INDONESIA: STUDI POTONG LINTANG

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Abstract

Patient safety incidents remain a critical healthcare problem in Indonesia, particularly within hospital settings. Patient safety goals are an essential priority for healthcare providers, especially nurses, who serve as the frontline workforce delivering continuous care. Optimal implementation of patient safety goals requires adequate knowledge, supportive attitudes, and strong professional performance from nurses. Effective adherence to these goals plays a key role in preventing adverse events that may harm or endanger patients. This study aimed to examine the relationship between nurses' knowledge and attitudes with the implementation of Patient Safety Goals in a private hospital in West Sumatra, Indonesia. A descriptive quantitative method with a cross-sectional design was used. A total of 35 nurses were selected through total sampling. Data were collected using validated questionnaires (KPSQ, APSQ, IPSG I–VI). Statistical analysis employed the Chi-Square test with a significance level of $p < 0.05$. Results showed that more than half of the nurses demonstrated good knowledge (51.4%), positive attitudes (57.1%), and good implementation of patient safety goals (54.3%). Chi-Square analysis revealed significant associations between knowledge and patient safety goal implementation ($p=0.044 < 0.05$), as well as between attitudes and patient safety goal implementation ($p=0.012$). The study concludes that nurses' knowledge and attitudes are significantly related to the implementation of patient safety goals. Continuous training and regular dissemination regarding patient safety standards are recommended to strengthen nurses' adherence to SOPs and to enhance the overall patient safety culture within the hospital.

Keywords : Knowledge, Attitudes, Patient Safety Goals, Nurses, Hospital.

Abstrak

Insiden keselamatan pasien masih menjadi permasalahan serius dalam pelayanan kesehatan di Indonesia, khususnya di rumah sakit. Sasaran keselamatan pasien merupakan prioritas penting bagi tenaga kesehatan, terutama perawat sebagai garda terdepan yang memberikan asuhan keperawatan selama 24 jam. Implementasi sasaran keselamatan pasien menuntut pengetahuan yang memadai, sikap



yang mendukung, serta kinerja profesional yang optimal dari perawat. Penerapan sasaran tersebut berperan penting dalam mencegah terjadinya insiden yang dapat membahayakan atau merugikan pasien. Penelitian ini bertujuan untuk menganalisis hubungan pengetahuan dan sikap perawat dengan pelaksanaan Sasaran Keselamatan Pasien di salah satu rumah sakit swasta di wilayah Sumatera Barat. Penelitian ini menggunakan metode kuantitatif deskriptif dengan desain cross sectional. Sebanyak 35 perawat dipilih melalui teknik total sampling. Pengumpulan data dilakukan menggunakan kuesioner KPSQ, APSQ, dan IPSG I–VI. Analisis data menggunakan uji Chi-Square dengan tingkat signifikansi $p < 0,05$. Hasil penelitian menunjukkan bahwa lebih dari separuh (51,4%) perawat memiliki pengetahuan baik, sikap baik (57,1%), dan implementasi sasaran keselamatan pasien yang baik (54,3%). Hasil uji statistik menunjukkan adanya hubungan bermakna antara pengetahuan dengan implementasi sasaran keselamatan pasien $p=0,044 < 0,05$ serta antara sikap dengan implementasi sasaran keselamatan pasien ($p = 0,012$). Penelitian ini menyimpulkan bahwa pengetahuan dan sikap perawat berhubungan signifikan dengan penerapan sasaran keselamatan pasien. Disarankan agar manajemen rumah sakit terus mempertahankan dan meningkatkan kegiatan pelatihan serta sosialisasi berkala untuk memperkuat penerapan standar keselamatan pasien dan membangun budaya keselamatan yang lebih baik di lingkungan rumah sakit.

Kata Kunci : Pengetahuan, Sikap, Sasaran Keselamatan Pasien, Perawat, Rumah Sakit.

1. INTRODUCTION

Patient safety is broadly defined as the prevention of healthcare-associated errors and adverse events from occurring to patients (WHO, 2016, as cited in Biresaw et al., 2020). It must be considered an essential priority for healthcare providers, who are expected to possess adequate knowledge to identify, interrupt, and correct medical errors in order to safeguard patients (Safarpour et al., 2017). The World Health Organization (WHO) emphasized in its Global Patient Safety Action Plan 2021–2030 that unsafe care is among the top ten causes of death and disability worldwide, underscoring the urgent need for systemic improvements (WHO, 2020). Furthermore, international evidence shows that one in every ten patients is harmed while receiving hospital care in high-income countries, highlighting the global burden of unsafe practices (WHO, 2020).

Patient safety has emerged as a critical global concern, with numerous reports documenting the prevalence of preventable adverse events in healthcare systems. Data from the Pennsylvania Patient Safety Reporting System (PPSRS) revealed that between January and April 2020, 71 hospitals submitted 343 incident reports. Of these, five were classified as serious events, including one patient death, while the remaining 338 were categorized as minor incidents (Taylor et al., 2020). Broader estimates suggest that approximately 400,000 hospitalized patients experience preventable harm annually, and more than 200,000 deaths each year are attributed to avoidable medical errors (NCBI, 2024).

The World Health Organization (WHO, 2023) has highlighted several recurring safety issues in nursing care. Patient misidentification accounted for 3,326 incidents, including 409 sentinel events. Unsafe injection practices were linked to 1.67 million hepatitis B infections, between 157,592 and 315,120 hepatitis C infections, and 16,939 to 33,877 HIV infections worldwide. Patient falls remain one of the most frequent adverse events in hospitals, occurring



at a rate of 3–5 per 100 inpatient days, with more than one-third resulting in injury. In the United States, the Committee on Medication Error Prevention reported at least 1.5 million preventable medication errors annually, leading to significant adverse outcomes (Yulianti et al., 2019). Similarly, data from the Sullivan Group documented 2,447 procedural errors, 2,413 wrong-site surgeries, and 27 wrong-patient surgeries (Jacobs, 2023).

In Indonesia, patient falls represent one of the top three hospital safety incidents. Reports from the Hospital Patient Safety Incident System (IKP-RS) between January and July 2023 recorded 98 fall-related cases, ranking second among medical incidents nationwide (Ministry of Health Republic Indonesia, 2024). Preventing patient falls is therefore recognized as a critical safety goal, given their significant impact on hospitalized patients (JCI, 2024).

Despite the risks, many patient safety incidents remain underreported, often due to workplace-related constraints (Wati et al., 2018). Unsafe nursing behaviors—such as forgetfulness, lack of attention, negligence, and inadequate motivation—can contribute to near-miss events and actual harm to patients (Jamal et al., 2022). Nurses' perceptions and attitudes toward patient safety play a pivotal role in prevention, control, and improvement efforts (Wardani et al., 2023).

Patient safety has become a fundamental requirement of healthcare services and is considered a top priority in maintaining care quality (Buhari et al., 2022; Ministry of Health Republic Indonesia, 2022). Nurses as frontline providers, have a central role in ensuring patient safety. Their knowledge, attitudes, and awareness significantly influence the successful implementation of safety practices in hospitals (Buhari et al., 2022). According to Wake et al. (2021, in Jamal et al., 2022), nurses are uniquely positioned to improve patient safety as the largest group of healthcare professionals, providing continuous care throughout hospitalization. Evidence further suggests that nursing personnel should regularly update their knowledge and attitudes toward patient safety and integrate these into practice to strengthen safety outcomes (Pramanik et al., 2021).

Recent studies in Indonesia highlight ongoing challenges. Anggraini & Ilyas (2023) reported that 22% of nurses demonstrated poor knowledge of patient safety, while 56% exhibited negative attitudes. Similarly, Amalia et al. (2023) found suboptimal implementation of the six International Patient Safety Goals (IPSG) at RSUO Dr. Tadjuddin Chalid Hospital, Makassar. Specifically, poor performance was observed in patient identification (14.7%), effective communication (31.4%), high-alert medication safety (68.6%), surgical accuracy (9.8%), infection risk reduction (66.7%), and fall prevention (68.6%). These findings indicate that nurses have not yet fully implemented patient safety goals in practice.

Preliminary survey collected at Private General Hospital in Padang Indonesia revealed that nurses demonstrated limited knowledge and negative attitudes toward patient safety, particularly in the areas of patient identification and fall prevention. These findings reinforce the need for systematic evaluation of nurses' knowledge and attitudes in relation to patient safety goals. This study aims to analyze the relationship between nurses' knowledge and attitudes toward patient safety goals at Private General Hospital in Padang Indonesia.



2. RESEARCH METHOD

This study employed a quantitative descriptive design with a cross-sectional approach. The research aimed to examine the relationship between nurses' knowledge and attitudes toward patient safety goals at Private General Hospital Padang. The population comprised of all nurses working at Private General Hospital Padang. A total sampling technique was applied, resulting in 35 respondents who met the inclusion criteria. Data were collected using three standardized questionnaires the Knowledge Toward Patient Safety Questionnaire (KPSQ) to measure nurses' knowledge, the Attitude Toward Patient Safety Questionnaire (APSQ) to assess nurses' attitudes, and the International Patient Safety Goals I–VI (IPSG I–VI) to evaluate patient safety goals. Data analysis was conducted using the Chi-Square test with a significance level of $p < 0.05$ to determine the relationship between variables. All questionnaires were presented in Bahasa because it is used as the principal language in this hospitals and communication for nurses in the clinical context. The questionnaires instrument concerning consists of three socio-demographics, knowledge, attitudes and patient safety goals. The questionnaire was structured into three sections: demographics, knowledge, and attitudes. The knowledge section, adapted from instruments cited in Jamal et al. (2022) and Biresaw et al. (2020), consisted of 11 items assessing nurses' understanding of patient safety. The attitude section comprised 13 items evaluating registered nurses' perspectives on patient safety. Responses were measured using a five-point Likert scale (1 = strongly disagree/very poor, 2 = disagree/poor, 3 = neutral/fair, 4 = agree/good, 5 = strongly agree/very good). The survey was distributed to nurses within the hospital unit, with permission, explanation, and informed consent clearly stated in the instrument. Data were analyzed using SPSS version 22.

3. RESULT AND DISCUSSION

Table 1. Frequencies and Percentages of Respondents' Characteristics (N=35)

Variable/Categories	Frequency (n)	Percentage (%)
Gender		
Male	3	8.6
Female	32	91.4
Education		
Diploma in Nursing	24	68.6
Bachelor in Nursing	11	31.4
Unit/Ward		
Inpatient	8	22.9
Outpatient Clinic	8	22.9
Operation Unit	6	17.1
NICU	5	14.3
Emergency Unit	8	22.9
Work Tenure		
<5 years	19	54.3
>5 years	16	45.7
Total	35	100



Based on table 1 mostly respondents (91.4%) were female nurses with more than half (68.6%) a diploma in nursing. The majority worked in inpatient, outpatient, or emergency units, and over half (54.3%) had less than five years of work tenure, indicating a relatively young workforce.

Table 2. Overall Scores of Knowledge, Attitude and Patient Safety Goals (N=35)

Variable	f	%
Knowledge		
Good	18	51.4
Poor	17	48.6
Attitudes		
Good	20	57.1
Poor	15	42.9
Patient Safety Goals		
Good	19	54.3
Poor	16	45.7
Total	35	100

Table 2 illustrates the overall distribution of nurses' knowledge, attitudes, and implementation of patient safety goals. The findings show that more than half of the respondents (51.4%) demonstrated good knowledge, while 48.6% were categorized as having poor knowledge. Regarding attitudes, 57.1% of nurses showed a positive attitude and 42.9% exhibited poor attitudes toward patient safety.

In terms of the implementation of Patient Safety Goals more than half (54.3%) of respondents achieved good implementation, while 45.7% remained in the poor category. These results indicate that although the majority of nurses performed adequately across all three variables, there is still a substantial proportion who require additional support and capacity-building to ensure optimal patient safety practices.

Table 3. Correlation of Knowledge and Patient Safety Goals (N=35)

Knowledge	Patient Safety Goals				p-value		
	Good		Poor			Total	
	N	%	N	%		N	%
Good	13	(72.2%)	5	(27.8%)	18	(51.4%)	0.044
Poor	6	(35.3%)	11	(64.7%)	17	(48.6%)	
Total	19	(54.3%)	16	(45.7%)	35	(100%)	

Table 3 shows a significant association between nurses' knowledge and the implementation of patient safety goals ($p = 0.044$). Nurses with good knowledge demonstrated a higher proportion of good implementation (72.2%) compared to those with poor knowledge (35.3%).

**Table 4. Correlation of Attitude and Patient Safety Goals (N=35)**

Attitude	Patient Safety Goals				Total		p-value
	Good		Poor				
	N	%	N	%	N	%	
Good	15	(75%)	5	(25%)	20		0.012
					(57.1%)		
Poor	4	(26.7%)	11	(73.3%)	15		(42.9%)
Total	19		16	(45.7%)	35		(100%)
	(54.3%)						

The findings at table 4 show a statistically significant relationship between nurses' attitudes and the implementation of patient safety goals ($p = 0.012$). Nurses with a good attitude demonstrated a higher level of compliance with patient safety goals (75%) compared to those with poor attitudes (26.7%). These results indicate that positive attitudes contribute to better implementation of patient safety practices in the clinical setting.

Discussion

In this study, more than half of the respondents (51.4%) demonstrated adequate knowledge regarding patient safety goals. This finding is consistent with several studies conducted in Indonesia. Lamohamad et al. (2024) reported that 56.7% of nurses at Mamitra Hospital had good knowledge of patient safety goals, while Syam & Hastuti (2018) found that 52% of nurses at Yogyakarta Regional General Hospital were categorized as having good knowledge. Similar results were also reported by Pardede et al. (2020) who found that 49.3% of nurses had good knowledge and Fitri et al. (2020) who reported a proportion of 55%. In addition, Cheristina & Bua (2020) observed a higher level of knowledge, with 69.77% of nurses demonstrating good understanding of patient safety. More recent studies also show higher proportions, such as Sari et al. (2022), who reported that 79.5% of nurses at Banjar Baru had good knowledge, and Fitri & Putri (2025), who found that 78% of nurses were categorized as having good knowledge.

International evidence presents comparable yet varied findings. In Ethiopia, Biresaw et al. (2020) reported that 48.4% of nurses demonstrated good knowledge of patient safety, while a study in India by Banerjee & Dutta (2025) showed a slightly lower proportion, with only 47% of nurses having adequate knowledge. In contrast, significantly higher knowledge levels were reported in Malaysia, where Jamal et al. (2022) found that 96.9% of nurses possessed good knowledge of patient safety.

The present study demonstrated that nurses' attitudes toward patient safety goals were predominantly within the good category with 51.7% of respondents exhibiting favorable attitudes. This finding is consistent with the results of Syam & Hastuti (2018), who reported a similar proportion of nurses (51.3%) demonstrating positive attitudes toward patient safety. Such alignment suggests a stable pattern across different institutional contexts in Indonesia, indicating that more than half of nurses generally maintain supportive attitudes toward patient safety initiatives.



Nevertheless, variations across studies highlight the influence of contextual and organizational factors. Pardede et al. (2020) observed that less than half of nurses (44.8%) demonstrated good attitudes. In contrast, Fitri et al. (2020) and Cheristina & Bua (2020) reported higher proportions of nurses with positive attitudes at 60% and 58.14% respectively, while Fitri & Putri (2025) documented the highest proportion at 69.5%. Comparative evidence from international studies further reinforces this perspective. Biresaw et al. (2020) in Ethiopia found that 51.6% of nurses demonstrated good attitudes, closely mirroring the present study's findings. Meanwhile, Jamal et al. (2022) in Malaysia reported a slightly lower proportion (47.7%), suggesting that regional differences in healthcare systems and patient safety policies may influence outcomes.

The current study revealed that 54.3% of nurses demonstrated good implementation of patient safety goals. This proportion indicates that more than half of the nursing staff are able to apply safety standards effectively in their daily practice. Such findings resonate with the results of Cheristina & Bua (2020) who documented a higher percentage (62.79%) and with Raghavendran et al. (2020) in India, where the proportion reached 76.67%. These similarities suggest that when hospitals provide strong institutional support and cultivate a safety-oriented culture, nurses are more likely to achieve favorable outcomes in patient safety implementation (Sadeghi et al., 2025; Mrayyan, 2022; MDPI Healthcare, 2024).

In contrast, several studies reported lower levels of achievement. Pardede et al. (2020) found that only 43.3% of nurses were categorized as good, while Tenri & Pratiwi (2023) and Solikhah et al. (2022) reported comparable figures of 42.3% and 43.8% respectively. Taken together, the evidence demonstrates a wide range of outcomes across different contexts, from less than half to more than three-quarters of nurses achieving good implementation of patient safety goals. This variability underscores the importance of continuous professional education, leadership engagement, and institutional commitment to safety. Strengthening these elements is essential to ensure that nurses' knowledge and attitudes consistently translate into effective patient safety practices across diverse healthcare settings.

The bivariate analysis in this study revealed a statistically significant relationship between nurses' knowledge and the implementation of patient safety goals ($p=0.044 < 0.05$). This finding underscores that knowledge is not merely a cognitive attribute but a critical determinant of clinical behavior, directly influencing the extent to which nurses adhere to patient safety standards. Comparable evidence has been reported by Fitri & Putri (2025), who found a significant association in Makassar ($p=0.004, \alpha=0.05$) and by Pardede et al. (2020) who documented a similar relationship ($p=0.033 < 0.05$). Fitri et al. (2020) further strengthened this evidence with a highly significant result ($p=0.000 < 0.05$), suggesting that knowledge functions as a strong predictor of compliance with patient safety protocols. Yasir (2019) also confirmed this association ($p=0.036 < 0.05$), reinforcing the consistency of findings across different Indonesian healthcare settings. However, the literature also presents divergent results. Solikhah et al. (2022) reported no significant relationship between nurses' knowledge and the implementation of patient safety goals at PKU Muhammadiyah Sekapuk Hospital ($p = 0.305$).



> 0.05). Similarly, Jamal et al. (2022) in Malaysia found no significant association with p -values exceeding 0.05.

International studies provide further support for the critical role of knowledge. Biresaw et al. (2020) in Ethiopia showed that nurses with higher levels of knowledge were more likely to exhibit positive attitudes and practices toward patient safety, highlighting knowledge as a cornerstone of safety culture. Sadeghi et al. (2025) found that patient safety knowledge significantly influenced nurses' responsibility and compliance with safety protocols, while Mrayyan (2022) emphasized that knowledge when reinforced by organizational culture, serves as a strong predictor of patient safety outcomes.

The bivariate analysis in this study revealed a statistically significant relationship between nurses' knowledge and the implementation of patient safety goals ($p = 0.044 < 0.05$). This finding underscores that knowledge is not merely a cognitive attribute but a critical determinant of clinical behavior, directly influencing adherence to patient safety standards. Similar results were reported by Fitri & Putri (2025), who found a significant association in Makassar ($p=0.004$, $\alpha=0.05$) and by Pardede et al. (2020) who documented a comparable relationship ($p=0.033 < 0.05$). Fitri et al. (2020) further strengthened this evidence with a highly significant result ($p=0.000 < 0.05$) while Yasir (2019) also confirmed a significant association ($p=0.036 < 0.05$).

In contrast, Solikhah et al. (2022) reported no significant relationship between nurses' knowledge and patient safety implementation at PKU Muhammadiyah Sekapuk Hospital ($p=0.305 > 0.05$) and Jamal et al. (2023) in Malaysia similarly found no significant association ($p > 0.05$). International studies provide further support for the critical role of knowledge. Biresaw et al. (2020) in Ethiopia demonstrated that nurses with higher knowledge levels were more likely to exhibit positive attitudes and practices toward patient safety. Sadeghi et al. (2025) found that patient safety knowledge significantly influenced nurses' responsibility and compliance with safety protocols, while Mrayyan (2022) emphasized that knowledge, when reinforced by organizational culture, serves as a strong predictor of patient safety outcomes. Similarly, Adhav et al. (2024) in India and Rasheed et al. (2024) in Egypt confirmed that nurses' knowledge directly impacts the consistency of patient safety goal implementation.

Overall, the collective evidence illustrates a complex and multifaceted relationship, knowledge consistently emerges as a significant factor in many contexts (Fitri & Putri, 2025; Pardede et al., 2020; Fitri et al., 2020; Yasir, 2019; Biresaw et al., 2020; Sadeghi et al., 2025), yet its impact is contingent upon institutional and cultural conditions. Considered as a whole, the evidence underscores both consistency and divergence in outcomes, highlighting that while knowledge is a strong predictor, its effectiveness depends on systemic reinforcement. Synthesizing the results across studies, a clearer yet multifactorial pattern emerges: knowledge enhancement must be integrated with leadership engagement, policy reinforcement, and workload management to ensure sustainable improvements in patient safety.

The bivariate analysis in this study revealed a significant relationship between nurses' attitudes and the implementation of patient safety goals ($p=0.012 < 0.05$). This finding indicates



that attitudes play a crucial role in shaping nurses' compliance with patient safety standards. Consistent evidence has been reported by Fitri & Putri (2025), who found a significant association between nurses' attitudes and patient safety implementation in Makassar ($p=0.001$, $\alpha=0.05$). Similarly, Solikhah et al. (2022) documented a significant relationship between attitudes and patient safety goal implementation at PKU Muhammadiyah Sekapuk Hospital ($p=0.039 < 0.05$). Galleryzki et al. (2021) further reinforced this evidence, reporting a highly significant association ($p=0.000 < 0.05$), suggesting that positive attitudes strongly predict adherence to patient safety protocols.

Raghavendran et al. (2020) in India assessed knowledge, attitudes, and practices regarding Patient Safety Goals among nurses and found that favorable attitudes were significantly associated with higher compliance rates. In Egypt, El Desoky Abdel Bary et al. (2025) reported that nurses' attitudes toward patient safety culture were closely linked to their practice of patient safety goals, emphasizing that positive attitudes foster stronger safety behaviors. A systematic review by the Joint Commission Journal on Quality and Patient Safety (2025) highlighted that across hospital settings worldwide, nurses' attitudes toward patient safety culture consistently predicted better implementation of safety goals. In Jordan, Alsobou et al. (2025) found that nurses with positive attitudes toward incident reporting were more likely to engage in patient safety practices, underscoring the role of attitudes in sustaining a safety culture. Similarly, a meta-analysis in Ethiopia confirmed that attitudes toward patient safety culture were a significant determinant of safety outcomes in public hospitals.

4. CONCLUSION

This study showed that nurses' knowledge and attitudes are significantly linked to how well patient safety goals are implemented in a private hospital in West Sumatra, Indonesia. More than half of the participants displayed good knowledge (51.4%), positive attitudes (57.1%), and effective implementation of patient safety goals (54.3%). Chi-Square analysis confirmed meaningful connections between knowledge and the implementation of patient safety goals ($p=0.044$) and between attitudes and goal implementation ($p=0.012$). These results emphasize the need to strengthen nurses' skills through ongoing training, regular updates on patient safety standards and reinforcement of the hospital's safety culture.

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