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ORIGINAL ARTICLE

Analysis of Determinant Factors Influencing in Compliance Patient Safety Incident Reporting Based on The Theory of Planned Behaviour

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ABSTRACT

Background: Patient safety is a priority for health services because it can cause serious public health problems. Incident reporting is essential to improve patient safety. This study aims to analysis of determinant factors influencing compliance patient safety incident reporting based on the theory of planned behaviour. **Methods**: This study used a cross-sectional design with the population being medical and nursing staff involved 116 participants who were determined using a simple random sampling technique. The analysis in this study used Logistic regression analysis. **Results**: the study found that health professionals mostly reported high bullying (56.9%), poor patient safety culture (75.0%), low protection motivation (53.4%), and non-compliance in reporting patient safety incidents (55.2%). Logistic regression analysis that had the potential to comply with incident reporting showed low bullying (aOR: 1.8; 95%CI: 0.69-4.81), good patient safety culture (aOR: 2.9; 95%CI: 093-9.25), and high protection motivation (aOR: 1.91; 95%CI: 0.86-4.25).). **Conclusion**: the importance of analyzing the determinant factors that influence compliance in reporting patient safety incidents is based on the theory of planned behavior, where low workplace bullying, good patient safety culture, and high protection motivation are the main determinants of compliance in reporting patient safety incidents.

Keywords: Compliance, incident reporting, theory of planned behaviour, patient safety

INTRODUCTION

Incident reporting is essential to improve patient safety (Kusumawati & Handiyani, 2019). Patient safety is a priority for healthcare services because it can cause serious public health problems (Rachmawati & Uminiyatun, 2023). Human and system factors in healthcare and their role in patient incidents are beginning to be recognized in patient safety. Preventing death and injury from medical errors requires systemic change and human factors must be considered when building a safe healthcare organization in hospitals (Halinen & Iirinki, 2024). Identifying and investigating safety incidents has become a focus for the patient safety field. A report from the Healthcare Safety Investigation Branch highlighted that staff continued to lack support after an incident, resulting in low reporting of well-documented safety incidents (Ramsey & Shedard, 2025). The current major gap in staff compliance in initiating reporting is a key factor influencing the development of good patient safety infrastructure to support practices that reduce the number of unintentional harm events (Amaniyan & Faldaas, 2020).

A meta-analysis of data from the Institute of Medicine (IOM) in the report to err is human: building a safer health system on adverse events in hospitals found that patient safety incidents are underreported even between 44,000 and 98,000 Americans die each year from preventable medical errors (Rodwin & Bilan, 2020). Similarly, a study in the UK reported that more than 1 million safety-

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related events occur each year, including about 10,000 serious incidents resulting in serious injury or death at a cost of about £1.7 billion in clinical negligence claims (Ramsey & Shedard, 2025).

Patient safety incident (PSI) reporting in healthcare refers to the collection of data on healthcare incidents with the goal of improving patient safety and quality of care. When done well, this reporting identifies safety hazards and guides the development of interventions to reduce risks, thereby reducing harm (Han & Jeong, 2024). As healthcare organizations strive to consistently improve services, there is a growing understanding of the need to create a culture of safety, which is a critical element of high-quality healthcare (Shemsu & Dechasa, 2024).

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Human error at the system level is negligence in safety behavior caused by work environment conditions, which cannot be changed by the individual, and one approach to understanding behavior uses the theory of planned behavior (Kim & Jeong, 2021). The theory of planned behavior (TPB) is a well-validated behavioral decision-making model that has been used to predict social and health behavior. According to TPB, human actions are guided by three types of considerations including beliefs about the possible outcomes of behavior and the evaluation of these outcomes (behavioral beliefs), beliefs about the normative expectations of others and the motivation to comply with these expectations (normative beliefs), and beliefs about the existence of factors that can facilitate or hinder behavioral performance and the perceived strength of these factors (control beliefs). TPB describes individual-level action predictors that investigate factors associated with safety management activities and will be useful in developing effective strategies to improve patient safety management activities (Kim & Jeong, 2021).

Identifying factors that influence organizational and individual dimensions that promote patient safety management activities is important. Therefore, it is important to know and analyze the determinant factors that influence compliance in reporting patient safety incidents based on the theory of planned behavior.

METHODS

The research design used cross-sectional. The study involved 116 participants using simple random sampling technique. In this study, the independent variables were workplace bullying (X1); patient safety culture (X2); protection motivation (X3), and the dependent variable was compliance in reporting patient safety incidents (Y). Data were collected using validated questionnaires, namely the Workplace Bullying (WPB) Questionnaire, Hospital Patient Safety Culture (HSOPSC 2.0), Nurses' Attitudes and Skills Safety Scale (NASUS). Furthermore, the data were analyzed using the Logistic regression analysis.

RESULTS AND DISCUSSION

Based on the results of the univariate analysis, characteristics of health professionals (Table 1) are mostly female (53.4%), are professionals with final professional education (60.3%), have worked for 1-5 years (73.3%), have never had previous work experience (87.1%), have a non-permanent employee status (64.7%), and have never been trained in quality and patient safety and safety culture (72.4%). The results also showed that most health professionals reported workplace bullying in the high category (56.9%), patient safety culture in the poor category (75.0%), protection motivation in the low category (53.4%), and compliance with reporting patient safety incidents at a non-compliant level (55.2%).

Based on the bivariate analysis (Table 2) independent factors related to compliance in

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reporting patient safety incidents are gender (p-value: 0.024), history of having attended quality and patient safety training (p-value: 0.000), bullying/workplace bullying (p-value: 0.001), patient safety culture (p-value: 0.001), protection motivation (p-value: 0.015).

Based on multivariate analysis using logistic regression (Table 3) compliant in reporting patient safety incidents compared to men (aOR: 2.2; 95%CI: 1.00-4.91), health professionals who have attended quality and patient safety training are four times more likely to be compliant in reporting patient safety incidents compared to professionals who have never attended quality and patient safety training (aOR: 4.7; 95%CI: 1.92-11.85), low workplace bullying is twice as likely to be compliant in reporting patient safety incidents compared to high workplace bullying (aOR: 1.8; 95%CI: 0.69-4.81), good patient safety culture is three times more likely to be compliant in reporting patient safety incidents compared to poor patient safety culture (aOR: 2.9; 95%CI: 093-9.25), and high protection motivation is twice as likely to be compliant in reporting patient safety incidents compared to low protection motivation (aOR: 1.91 ; 95%CI: 0.86-4.25).

This study revealed evidence that most health professionals reported low compliance (non-compliance) in reporting patient safety incidents. The results showed that the dominant factors influencing reporting of patient safety incidents included low workplace bullying, good patient safety culture, high protection motivation, being more likely to be compliant in reporting patient safety incidents, being mediated by male gender, and being health professionals who had attended quality and patient safety training. This provides empirical evidence that bullying factors, patient safety culture, and prevention motivation are simultaneously able to influence compliance in reporting patient safety incidents.

From a patient safety perspective, these incidents can be used as learning opportunities, considering that more than half of them are preventable. Reporting patient safety incidents is an important step in clinical risk management. After reporting, expert analysis, providing appropriate feedback, and taking corrective action to prevent recurrence of the safety incident are essential to promote learning and improve safety in healthcare organisations (Fekadu & Tobiano, 2025).

Consistent with previous studies that reporting of patient safety incidents such as in Addis Ababa General Hospital, Amhara Regional Referral Hospital, Gondar Comprehensive Specialized Hospital, Ghana, Ugandan health center (Safety & Kumbi, 2020), and Israel (Poku & Attafuah, 2023). Interestingly, this finding was also consistently associated with training having a higher chance of reporting patient safety incidents compared to those who did not receive training (Engeda, 2017).This similarity may occur because trained health professionals will be open-minded, consider the benefits of reporting errors, continue self-training, engage in training others, and accept incident reporting as the norm. A positive reporting environment will be fostered if education and training have equipped staff with an understanding of how systems fail, how harm occurs in health care, and how the impact of both can be reduced.

This similarity may be because trained health professionals will be open-minded, consider the benefits of error reporting, continue self-training, engage in training of others, and accept incident reporting as the norm. A positive reporting environment will be fostered if education and training have equipped staff with an understanding of how systems fail, how harm occurs in health care, and how the impact of both can be reduced. This study is consistent with previous studies that theoretical models of organizational culture in health care have stated that leadership values and strategies along with characteristics of organizational structure and culture greatly influence the intermediate process domains of staffing; training; employee safety through protection from workplace hazards (Hesgrove & Zebrak, 2024). This study assessed the relationship between dimensions of patient safety culture and patient safety event reporting. Feedback about errors, organizational learning, and management support for safety were the most predictive dimensions of patient safety culture for the outcome assessing the frequency of patient safety

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event reporting. Incident reporting in healthcare refers to the collection of data on healthcare incidents with the goal of improving patient safety and quality of care (Shemsu & Dechasa, 2024). It is argued that when done well, it identifies safety hazards and guides the development of interventions to reduce risks, thereby reducing harm. These findings provide evidence that healthcare professionals often refrain from reporting patient safety incidents due to fear of negative reactions from administrators and colleagues. This finding represents a major barrier to incident reporting in a patient safety culture that prevails in the hospital setting. Similarly, previous reviews have shown that fear of retaliation is a common barrier to incident reporting. These fears are exacerbated by organizational cultures that focus on blaming and shaming. Ideally, efforts to improve patient safety culture should focus on addressing the systemic causes of incidents and using incidents as learning opportunities to improve patient safety. Furthermore, fostering a culture of equity, where there is shared accountability across healthcare organizations and responding to individual staff in a fair and honest manner (Marum & Verhoeven, 2022).

Incident reporting is widely recognized as a means to improve patient safety. Healthcare facilities are at high risk for morbidity and mortality; thus, this industry is considered a highly hazardous industry and requires a safety culture assessment. Consistently, these findings support previous evidence that patient safety is critical to the quality of healthcare services and remains a development challenge in many countries. Furthermore, interventions that address patient safety culture in primary care are limited compared to secondary care. To improve patient safety, an important first step is to address and understand an organization's safety culture. Similarly, a safety culture assessment helps healthcare organizations to assess areas for improvement and analyze changes over time (Lawati & Dennis, 2018).

These findings suggest that hospital administration and other responsible units should work to improve healthcare provider incident reporting with a view to improving patient safety practices. On-the-job training related to patient safety incidents should be organised and provided to healthcare providers promptly. A work culture that embraces patient safety throughout the hospital should be encouraged to improve patient safety incident reporting behaviour. An established incident reporting system for patient safety should involve open discussion about the goals and objectives of patient safety incident reporting among hospital management and healthcare professionals. Future research should focus on the feasibility and appropriateness of a patient safety incident reporting system in hospitals to help staff use the reporting system best and most effectively, as well as efforts to encourage the eradication of workplace bullying.

The findings of this study provide insights for hospital leaders as they work to increase the rate of voluntary incident reporting. To increase the frequency of voluntarily reported patient safety incidents, this study suggests prioritising efforts to improve incident reporting feedback mechanisms, communication about system and process changes made in response to incident reports submitted, and voicing support for safety by upper-level hospital leadership. By focusing primarily on these areas, improved incident reporting can be realised more efficiently than by attempting other forms of culture change, which can take years to successfully implement.

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Table 1. Socio-demographic characteristics of healthcare professionals, Jember

Variables	Category	Frequency (n)	Percentage (%)
Sex	Female	62	53,4
	Male	54	46,6
Educational status	Diploma	37	31,9
	Degree	9	7,8
	Professions	70	60,3
Work Experience	<1 years	12	10,3
	1-5 years	85	73,3
	>5 years	19	16,4
Experience in current	No	101	87,1
	Yes	15	12,9
Job's status	temporary workers	75	64,7
	jobholder	41	35,3
Training	No	84	72,4
	Yes	32	27,6
Workplace bullying	High	66	56,9
	Low	50	43,1
Patient safety culture	Good	87	75,0
	Poor	29	25,0
Protection motivation	Low	62	53,4
	High	54	46,6
Compliance Patient safety incident reporting	No-Compliance	64	55,2
	Compliance	52	44,8

Table 2. Bivariate analysis of factors influencing compliance in reporting patient safety incidents

Variabel	Compliance patient safety incident reporting		*p-value*
	No-Compliance (n = 64)	Compliance (n = 52)	
Sex			0,024[2)]
Female	40 (64,5)	22 (35,5)	
Male	24 (44,4)	30 (55,6)	
Educational status			0,808[1)]
Diploma	22 (59,5)	15 (40,5)	
Degree	5 (55,56)	4 (44,4)	
Professions	37 (52,9)	33 (47,1)	
Work Experience			0,182[1)]
<1 years	7 (58,3)	5 (41,7)	
1-5 years	43 (50,6)	42 (49,4)	
>5 years	14 (73,7)	5 (26,3)	
Experience in current			0,162[1)]
No	58 (57,4)	43 (42,6)	
Yes	6 (40,0)	9 (60,0)	
Job's status			0,087[1)]
temporary workers	37 (49,3)	38 (50,7)	
jobholder	27 (65,9)	14 (34,1)	
Training			0,000[2)]
No	55 (65,5)	29 (34,5)	
Yes	9 (28,1)	23 (71,9)	
Workplace bullying			0,001[1)]
High	45 (68,2)	21 (31,8)	

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Variabel	Compliance patient safety incident reporting		*p-value*
	No-Compliance (n = 64)	**Compliance (n = 52)**	
Low	18 (38,0)	31 (62,0)	
Patient safety culture			
Good	56 (64,4)	31 (35,6)	0,001[1)]
Poor	8 (27,6)	21 (72,4)	
Protection motivation			0,015[2)]
Low	50 (62,5)	30 (37,5)	
High	14 (38,9)	22 (61,1)	

[1)]chi square (significance <0,05)
[2)]fisher's Exact Test (significance <0,05)

Table 3. Multivariate logistic regression analysis of factors affecting compliance in reporting patient safety incidents

Variabel	Compliance Patient safety incident reporting		COR (95%CI)	AOR (95%CI)	*p-value*[*)]
	No (n = 64)	**Compliance (n = 52)**			
Sex					0,048
Female	40 (64,5)	22 (35,5)	1	1	
Male	24 (44,4)	30 (55,6)	2,27 (1,07-4,79)	2,21 (1,00-4,91)	
Training					0,001
No	55 (65,5)	29 (34,5)	1	1	
Yes	9 (28,1)	23 (71,9)	4,84 (1,98-11,82)	4,77 (1,92-11,85)	
bullying					0,023
High	45 (68,2)	21 (31,8)	1	1	
Low	19 (38,0)	31 (62,0)	3,49 (1,61-7,55)	1,94 (0,53-7,12)	
PSI culture					0,005
Good	56 (64,4)	31 (35,6)	1	1	
Poor	8 (27,6)	21 (72,4)	4,74 (1,88-11,95)	2,92 (0,94-9,09)	
motivation					0,010
Low	50 (62,5)	30 (37,5)	1	1	
High	14 (38,9)	22 (61,1)	2,61 (1,16-5,87)	1,05 (0,30-3,67)	

[*)]p-value significance at ≤0,10

CONCLUSION

Health professionals who reported low workplace bullying were more likely to be compliant in reporting patient safety incidents. Good patient safety culture were more likely to be compliant in reporting patient safety incidents. High protection motivation were more likely to be compliant in reporting patient safety incidents. Low workplace bullying, good patient safety culture, high protection motivation were more likely to be compliant in reporting patient safety incidents, mediated by male gender, and health professionals who had attended quality and patient safety training. Health care managers should lead initiatives that are sensitive to available resources and prioritize patient safety, aiming to create an environment conducive to health care professionals reporting safety incidents.

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