

RECOMMENDATIONS TO IMPROVE EMPLOYEE PERSONAL ATTITUDE TOWARD REPORTING PATIENT SAFETY INCIDENTS

Rekomendasi Meningkatkan Personal Attitude Karyawan Melaporkan Insiden Keselamatan Pasien

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Abstract

Background: Patient Safety Incidents (PSI) in hospitals are adverse events that need to be reported for effective identification and risk management, aiming to prevent reoccurrence of incidents. However, not all incidents are documented, as evidenced by the discrepancy in the number of phlebitis reported by employees as well as Infection IPCLN at three hospitals.

Aims: Provide recommendations to improve employee Personal Attitude towards reporting PSI at three hospitals owned by Company A.

Methods: The method adopted was a cross-sectional research design; data were collected from three hospitals owned by company A and tested using multiple logistic regression statistics tests. Data on Phlebitis reported from January to July 2018 at three hospitals owned by Company A was used. Furthermore, 135 respondents were taken from the service installations of the three hospitals. The Lameshow formula and proportional random sampling are applied to determine the sample.

Results: The variables of error orientation ($p = 0.001$; $\beta = 0.349$), behavioral belief ($p = 0.008$; $\beta = 0.234$), and perceived behavioral control ($p = 0.003$; $\beta = 0.222$) had a positive and significant effect on the personal attitude of employees reporting PSI.

Conclusion: Two approaches were recommended to improve the personal attitude of employees in reporting PSI.

Keywords: Hospital, Patient safety incidents, Personal attitude, Underreporting.

Abstrak

Latar Belakang: Insiden Keselamatan Pasien (IKP) di rumah sakit wajib dilaporkan. Melalui pelaporan IKP dapat dilakukan identifikasi risiko dan tindak lanjut penanganan risiko. IKP juga pembelajaran bagi karyawan untuk mencegah insiden berulang. Sangat disayangkan bahwa tidak semua IKP dilaporkan. Hal ini terungkap pada pelaporan di tiga rumah sakit yakni jumlah insiden phlebitis yang dilaporkan karyawan tidak sesuai dengan yang dilaporkan IPCLN.

Tujuan: Memberikan rekomendasi meningkatkan Personal Attitude karyawan melaporkan IKP di tiga rumah sakit milik PT A.

Metode: Desain penelitian cross sectional, data dari tiga rumah sakit milik PT A diuji menggunakan uji statistik regresi linear berganda. Data pelaporan phlebitis bulan Januari – Juli 2018 di tiga rumah sakit milik PT A. 135 Sampel diambil dari instalasi pelayanan ketiga rumah sakit. Rumus Lameshow dan proporsional random sampling diterapkan dalam menentukan sampel.

Hasil: Variabel error orientation ($p=0,001$; $\beta=0,349$), behavioral belief ($p=0,008$; $\beta=0,234$), dan perceived behavioral control ($p=0,003$; $\beta=0,222$) berpengaruh positif dan signifikan terhadap personal attitude karyawan melaporkan IKP.

Kesimpulan: Dua pendekatan dapat diterapkan untuk meningkatkan personel attitude karyawan dalam melaporkan Insiden Keselamatan Pasien.

Kata kunci: Insiden Keselamatan Pasien, personal attitude, rumah sakit, underreporting.



Indonesian Journal of Health Administration (Jurnal Administrasi Kesehatan Indonesia)

p-ISSN 2303-3592, e-ISSN 2540-9301, Volume 12 No.2 2024, DOI: 10.20473/jaki.v12i2.2024.xxx-xxx

Received: 2023-11-03, Revised: 2024-09-13, Accepted: 2024-09-19, Published: 2024-12-02.

Published by Universitas Airlangga in collaboration with Perhimpunan Sarjana dan Profesional Kesehatan Masyarakat Indonesia (Persakmi).

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How to cite:

Andari, P., Handriyanto, C. F., Damayanti, N. A., and Pudjirahardjo, W. J. (2024). "Recommendations to Improve Employee Personal Attitude Toward Reporting Patient Safety Incidents." *Indonesian Journal of Health Administration*, 12(2), pp. xxx-xxx. doi: 10.20473/jaki.v12i2.2024.xxx-xxx.

Introduction

Patient Safety Incidents (PSI) are a global problem for hospitals due to the high prevalence of cases. These incidents are adverse events that can cause injury to patients, as documented by Wachter (2008). According to the Regulation of the Health Minister of Indonesia No.11 year 2017, adverse events are referred to as unexpected events.

The lack of reports on PSIs is becoming a problem in every country (Härkänen *et al.*, 2021). Dias *et al.* (2020) proved that not all incidents are reported, while Rocha *et al.* (2024) stated only 49.7% of cases were reported. Weprin *et al.* (2021) identified the causes of underreported cases. The problem of underreporting hampers the development of incident prevention strategies (Sherratt *et al.*, 2023; Zhang *et al.*, 2021; Scott *et al.*, 2021; Faustino *et al.*, 2021).

Phlebitis is one such PSI that occurs in hospitals (Hidayat *et al.*, 2020; Suhardono *et al.*, 2020; Villalba-Nicolau *et al.*, 2022). At three hospitals, namely X, Y, and Z, discrepancies were observed in the number of phlebitis reported. Data were collected from January to July 2018, with a primary focus on employee behaviour regarding case reporting. This study was conducted to address the issue of underreporting. The study covers all grades of PSI, using phlebitis as a representative metric due to its mandatory surveillance requirement. The incident is reported by both surveillance and employees. Data from three hospitals were considered complete and valid because the number of phlebitis was reported by both employees and Infection Prevention and Control Link Nurses (IPCLN). Furthermore, the data was considered valid due to the role of IPCLN as a validator.

According to the data collected, the number of phlebitis reported by employees at Hospital X and IPCLN, were 247 and 326, respectively. Employees at Hospital Y reported 82 phlebitis, while IPCLN documented 85 phlebitis. At Hospital Z, the employees reported 24 phlebitis, but IPCLN documented 32 phlebitis. The higher number of cases reported by IPCLN

signifies a scenario of underreporting. Data uncertainty limits efforts to identify risk related to PSI and impedes effective risk management aimed at preventing incident recurrence. A thorough analysis of factors affecting the personal attitudes of employees toward reporting PSIs across the three hospitals is essential to provide recommendations for enhancing personal reporting behaviours.

Method

The method adopted was a cross-sectional quantitative design. The population included all employees at the service departments of Hospitals X, Y, and Z, serving as the unit of analysis. These service departments include central surgery, maternity, nutrition, emergency, inpatient, medical check-up, outpatient, pharmacy, laboratory, radiology, and hemodialysis. Samples were collected using proportional random sampling techniques. The Lemeshow formula was applied to calculate the sample size to obtain a proportional value (Lemeshow *et al.*, 1990). Based on the statement from 473 population, 135 employee samples comprising 51, 41, and 43 from hospital X, Y, and Z, respectively, were taken. Additionally, a survey was conducted by distributing 5-point Likert scale questionnaires. The 5-point Likert scale consists of scale 1, 2, 3, 4, and 5, representing strongly disagree, disagree, disagree, agree, and strongly agree, respectively. The questionnaire comprised 41 items, including 3 on role identity conflict (RIC), 14 on behavioral belief (BB), 4 on error orientation (EO), 2 on perceived behavioral control (PBC), 3 on subjective norms (SN), 12 on blame culture (BC), and 3 on personal attitude (PA).

The study variable was based on the development of the Theory of Planned Behaviour (Ajzen, 2005; Pfeiffer, *et al.*, 2010). Personal attitude of employees reporting patient safety incidents was the dependent variable. The independent variables include RIC, BB, EO, PBC, SN, and BC. Furthermore, a questionnaire was adopted to measure BC, RIC, and EO were

measured using a developed questionnaire.

Figure 1 explains the conceptual framework of the study, outlining the relationship between independent and bound variables. In addition, this study aims to specifically examine the influence of independent variables (RIC, EO, PBC, SN, and BC) on the BB variable.

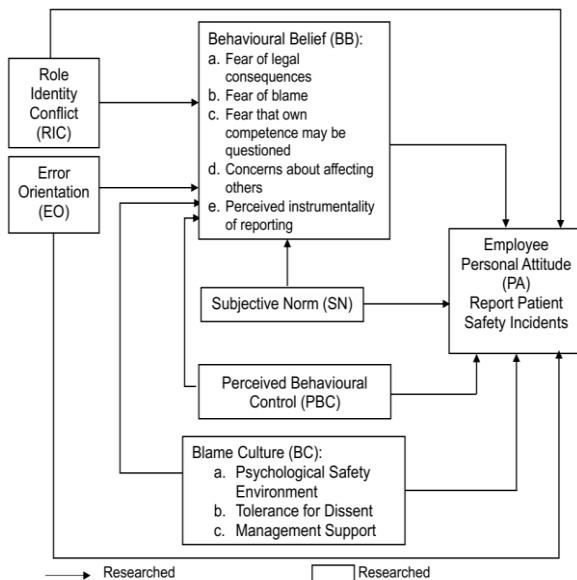


Figure 1. The Conceptual Framework

The measurement instruments were then tested for validity and reliability. Validity and reliability tests were conducted on 32 employees at Hospital B. A variable is considered valid when the significance value is < 0.05 ($p < 0.05$), and reliability is higher when the value approach 1.

The collected data was edited, scored, and input into the SPSS program. Multiple logistic regression statistical tests were used to analyse the effect of independent variables on dependent variables. The statistical test results were interpreted based on p and β values. It was important to acknowledge that independent variables had a positive significant effect on PA when the values of $p \leq 0.05$ ($\alpha = 0.05$) and β was positive. In addition to inferential analysis, descriptive analysis was conducted to determine the general distribution and level of variables based on categories. The next stage was to compile recommendations to improve PA towards

reporting incidents based on the results of descriptive and inferential analyses.

Result and Discussion

Company A, had a human resources department with the authority to establish management guidelines and regulations. These guidelines were applied across all the hospitals to ensure similarity in human resource management and the PSI reporting system.

Hospitals X and Y were categorised as class C, with 349 and 146 employees as well as 99 and 65 beds, respectively. Hospital Z was classified as class D, with a total of 152 employees with 42 beds. Furthermore, BOR at these hospitals ranged from 48% - 73%.

Data was collected from 135 respondents of hospital installation. The details were 51 employee X, 41 employee Y, and 43 employee Z. The characteristics of respondents include 76% aged ≤ 30 , 48% coming from outpatient and inpatient installations, 56% having a working period of 1 – 5 years, 59% education D4/S1, 58% had a working period between 1 – 5 years, and 52% worked as nurses.

The following describes the data in Table 1.

Role Identity Conflict (RIC)

RIC refers to the personal conflict experienced by employees in the workplace due to the simultaneous assignment of multiple roles at a time, leading to increased workloads Oweidat *et al.* (2023). In this study, the variable was classified as 70% in the low category, indicating that there is room for improvement in addressing this conflict.

Error Orientation (EO)

EO refers to an employee's evaluation of positive outcomes that may arise from a medical error, which can lead to corrective actions. This variable scored 90% and was classified in the high category ($>80\%$). Shanmuga *et al.* (2022) reported that incident reporting often results in recommendations that offer positive benefits.

Table 1. The Results of Descriptive Analysis at Hospitals (X, Y, Z)

No.	Variables	Category	n	Value (%)
1.	Role Identity Conflict (RIC)	Low	95	70
		Medium	40	30
		High	0	0
2.	Error Orientation (EO)	Low	0	0
		Medium	13	10
		High	122	90
3.	Behavioural Belief (BB)	Low	0	0
		Medium	33	24
		High	102	76
4.	Subjective Norm (SN)	Exist	125	93
		Unexist	10	7
5.	Perceived Behavioural Control (PBC)	Low	2	1
		Medium	44	33
		High	89	66
6.	Blame Culture (BC)	Low	57	42
		Medium	77	57
		High	1	1
Psychological Safety Environment (PSE)	Low	4	3	
	Medium	106	79	
	High	25	19	
Tolerance for dissent	Low	0	0	
	Medium	47	35	
	High	88	65	
Management support	Low	1	1	
	Medium	49	36	
	High	85	63	
7.	Personal Attitude (PA)	Low	0	0
		Medium	33	24
		High	102	76

Behavioral Belief (BB)

BB refers to an employee's belief in the values associated with reporting behaviour, which scored 76%. This signifies high confidence, but the value needs to be increased to > 80%. According to Oweidat *et al.* (2023), fears of disciplinary action and blame were the main barriers to incident reporting. Van Marum, *et al.* (2022) stated that fear of being perceived as inexperienced affected employee confidence to report incidents.

Subjective Norm (SN)

Subjective norm is a norm in the scope of employees' work to report PSI, as mandated by Regulation of the Health Minister of Indonesia No.11, 2017. According to the survey, 93% of respondents answered that the variable

already existed in the three hospitals, and the standard needs to be maintained.

Perceived Behavioral Control (PBC)

PBC refers to the ability of employees to overcome obstacles in reporting patient safety incidents (Fernandez *et al.*, 2023; Fekonja *et al.*, 2023), scored 66% and was classified under the high category, hence, needs to be improved.

Blame Culture (BC)

BC, a barrier to incident reporting (Mahmoud *et al.*, 2023; Brabcová *et al.*, 2023), scored 57% and was classified the medium category. This implied that institutions have the potential to blame people when incidents are reported, a sentiment felt by employees (Mohan *et al.*, 2022; Rocco, *et al.*, 2022; Sherratt *et al.*,

2023). The variable consists of sub-variables as indicators:

The psychological safety environment is the security sense of employees when working in the institution. This variable scored 79% and was classified under the medium category. A study by Brabcová *et al.* (2023) states that fear of being blamed due to declining patient health and management response to incidents affected the act of reporting. The potential impact on the relationship between employees also affected incident reporting (Abdelmaksoud *et al.*, 2023; Nurdin *et al.*, 2021).

Tolerance for dissent scored 65%, and was classified under the high category. This explained that institutions tolerate employees who disagree with PSI. Meanwhile, Management Support, which is needed to establish incident reporting (Koike *et al.*, 2022; Nurdin *et al.*, 2021),

scored 63% as a sub-variable and was classified under the high category.

Employee Personal Attitude (PA) Report Patient Safety Incidents

PA refers to the behaviour of employees when reporting PSI, scored 76% and was classified under the high category. This signified appropriate behavior when dealing with PSI, but the value needs to be increased to 80% (Barreto *et al.*, 2021; Benevento *et al.*, 2023; Eldrwish *et al.*, 2022). Furthermore, a multiple logistic regression backward method test was conducted to evaluate the effect of the independent variable on the dependent variable. Since PA is considered a "behaviour," a logistic regression method analysis was conducted to assess the influence of RIC, EO, SN, and PBC on Behavioural Belief (BB) (Tsai *et al.*, 2022), as shown in Figure 2.

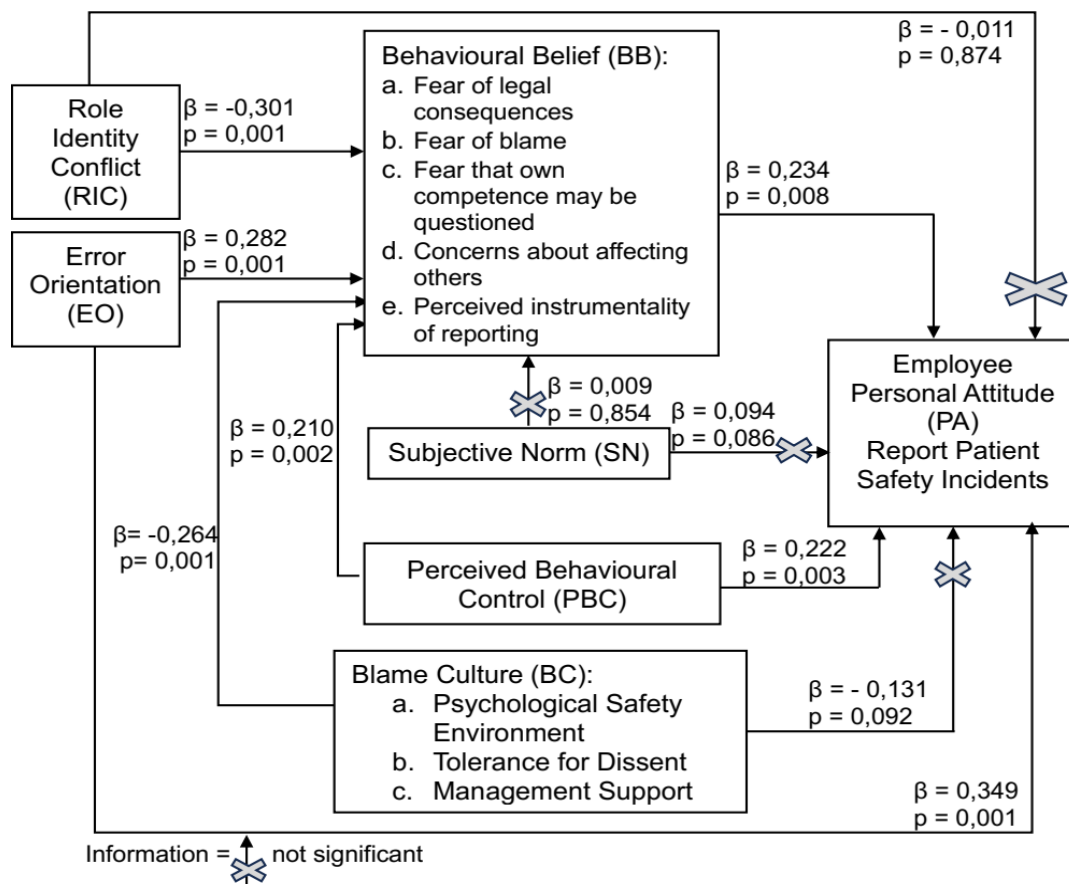


Figure 2. The Results of Inferential Analysis at Hospitals (X, Y, Z)

It was observed that EO, BB, and PBC had a significant effect on PA. EO had the greatest influence on the PA of employees. Figure 2 shows that lower RIC, higher EO, and higher PBC, are associated with higher PA towards reporting patient safety incidents. A good BB correlated with a high PA (Pfeiffer *et al.*, 2010).

The effect of the five variables on BB was further examined, and the results of the statistical tests are presented in Figure 2. A better BB is correlated with lower RIC, higher EO, higher PBC, and lower BC. It was important to acknowledge that RIC, EO, PBC, and BC had a significant effect on BB (Pfeiffer *et al.*, 2010; Schram *et al.*, 2021).

The unit of analysis in this study is respondents from three hospitals, which is among its advantages. However, the limitations were attributed to the characteristics of data sources being limited to hospitals managed by Company A. The human resources department of Company A followed a single guideline to ensure similarities in human resource management and PSI reporting systems. The study may be able to produce different results when conducted on the characteristics of different data sources. For example, respondents from hospitals owned by different companies, each following distinct human resource management guidelines, may provide varying responses to the questionnaire (Borgia *et al.*, 2024).

Conclusion

In conclusion, the results of the PA analysis were used to improve employee attitudes toward reporting PSI at Hospitals X, Y, and Z. The recommendations included: 1) the results of the analysis showed that the BB value < 80%, signifying that as BB increases, PA also increases. Therefore, training is needed to enhancing employee understanding of the positive value of incident reporting and increasing employee confidence in the benefit of reporting incidents. 2) According to the analysis, the PBC value is 66%, which falls within the high category. Since higher PBC correlates with increased PA, it is

necessary to improving employee skills to overcome obstacles in reporting PSI.

Abbreviations

BB: behavioural belief; EO: Error Orientation; PSI: Patient Safety Incidents; IPCLN: Infection Prevention Control Link Nurse; PA: personal attitude; PBC: Perceived Behavioural Control; PIR: Perceived Instrumentality of Reporting; PSE: Psychological Safety Environment; SN: Subjective Norms; SPSS: Statistical Program for Social Science; RIC: Role Identity Conflict

Declarations

Ethics Approval and Consent Participant

The Health Research Ethics Committee Faculty of Nursing Universitas Airlangga has approved this project, accompanied by a letter of Ethical Approval No: 1759-KEPK.

Conflict of Interest

There is no conflict of interest.

Availability of Data and Materials

Not applicable.

Authors' Contribution

PA conceived the study, gathered, analysed, and interpreted data, wrote the original article, reviewed, and edited. CFH prepared the original manuscript, and NAD and WJP reviewed the manuscript. The final manuscript was accepted by all authors.

Funding Source

Not applicable

Acknowledgment

The authors are grateful to the Faculty of Public Health, Universitas Airlangga, for supporting this study.

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