



## Attitude and Pharmacovigilance on Implementation of Patient Safety Goals With Safety Culture as The Intervening Variable at RSUP East Jakarta

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**Abstract.** Implementation of patient safety goals in hospitals is a form of hospital assessment in managing patient safety programs and the quality of services provided by hospitals to patients must ensure that patients are not involved in detrimental risks. Hospitals must implement a safety culture to make patient care safer. Attitudes and pharmacovigilance as well as the need to implement patient safety is the basis for the formation of compliance behavior in implementing patient safety goals. Based on the considerations above, it is very important to analyze the influence of attitudes and pharmacovigilance on the implementation of patient safety as well as safety culture targets as intervening variables. The research method used in this research is quantitative causality research with a cross-sectional research design approach with the aim of examining the influence of attitudes and pharmacovigilance on the implementation of patient safety goals which are mediated by patient safety and strengthened by the existence of a safety culture in the hospital. The samples used in this research were nurses, namely regular and executive inpatient units. The analysis technique used is the Structural Equation Modeling (SEM) technique where statistical data processing uses the Smart PLS program. The results of the study found that attitude and pharmacovigilance had a significant effect on the implementation of patient safety goals, indicating that there was a strong relationship between pharmacovigilance and the implementation of patient safety goals. Attitudes, pharmacovigilance, and safety culture together have a significant influence on the implementation of patient safety goals. Having a good level of understanding of pharmacovigilance and a good attitude have a good safety culture will increase the implementation of patient safety.

**Keywords:** Attitude, Pharmacovigilance, Safe Culture, Patient Safety Goals

### 1. INTRODUCTION

Hospitals are faced with the challenge of improving the quality of their services which are multidimensional with various complexities of accompanying problems, including patient safety. Patient safety is a system to make patient care safer to minimize risks and prevent injuries caused by errors due to carrying out an action or not taking action that should be taken (Permenkes, 2017).

Safety culture will reduce adverse events (AE) so that hospital accountability in the eyes of patients and the public will increase. Safety culture helps organizations develop clinical governance, organizations can be more aware of errors that have occurred, analyze and prevent hazards or errors that will occur, reduce patient complications, repeated errors and the resources needed to address complaints and demands (Nivalinda, et al. 2023).

RSUP Persahabatan is a type A hospital. Currently, RSUP Persahabatan has a capacity of 600 beds, is accredited for 16 areas of health services, and is a national referral center hospital (top referral) for respiratory health problems. According to the 2023 Patient Safety Incident (IKP) regrading data from January to December. Incidents related to patient safety include 17%

Near Injury Incidents (KNC), 60% Non-Injury Incidents (KTC), 17% Unwanted Incidents (KTD), 5% (Potential Injury Incidents (KPC) and 1% Sentinel Incidents. The Patient Safety Incidents (IKP) related to the problem of patient falls, patient misidentification, incorrect administration of heparin, incoming drugs that do not match the therapy list, intravenous antibiotic drugs not given by nurses, replacement antibiotic drugs not implemented because they were not submitted to the PPRA (Antibiotic Resistance Control Program), patients still receive methyl prednisolone which has been stopped since 7 days earlier, administration of antibiotics is late, and LASA drugs have expired. Based on a preliminary survey of 10 nurses who conducted attitudes towards nurses at Persahabatan Hospital, it was shown that only about 3 nurses of them reported actions regarding pharmacovigilance and activities related to pharmacovigilance in the hospital. In addition, 7 other nurses were afraid to report the incident because of the fear of being judged by fellow coworkers, high work pressure so that nurses were less focused on treating patients, and less detailed teamwork in passing patients to the next shift nurse and resulting in reporting or responses that must be sent immediately if care is delayed, experiencing delays. Nurses play an important role in patient safety programs in the provision of health services because they are around patients and their families every day.

Based on the research conducted, there was a gap research where research was conducted on whether there was an influence of knowledge, attitudes and practices in pharmacovigilance and nurses' attitudes on the implementation of patient safety goals and safety culture.

## **2. METHOD**

The research method used in this study is a type of quantitative causality research with a cross-sectional research design approach with the aim of seeing the relationship between the influence of attitudes and pharmacovigilance on the implementation of patient safety targets with safety culture. The analysis technique used is the Structural Equation Modeling (SEM) technique where the statistical data processing uses the Smart PLS program. The population of inpatient nurses at RSUP Persahabatan is 323 people. The sample obtained was 169 inpatient nurses who work in the regular and executive units at Persahabatan Hospital. This study uses a data collection technique in the form of a questionnaire instrument with a google form. The questionnaire will be distributed to all respondents within 5 working days, and returned to the researcher on the same day. The questionnaire or list of questions is compiled by considering/applying the Likert scale. The answers to each instrument item using the Likert Scale have a gradation from very positive to very negative including Strongly Agree (SS) score 4, Agree (S) score 3, Disagree (TS) score 2, and Strongly Disagree (STS) score 1.

### **3. DATA ANALYSIS**

#### **a. Validity Test**

Based on Hair et al (2014), validity test is used to determine whether the questionnaire is valid. A questionnaire is considered valid if the questions reveal measurable metrics.

#### **b. Reliability Test**

Based on Hair et al., 2014, reliability test is measure that shows how reliable or trustworthy measuring instrument is; measurement with high reliability means being able to provide reliable or trustworthy measurement results.

#### **c. Multicollinearity Test**

To determine whether or not there is multicollinearity in this study, the tolerance value and the variation inflation factor (VIF) value are considered. When the tolerance value of the independent variable is less than 0.10 and the VIF value is more than 10, multicollinearity is considered absent.

#### **Result of Hypothesis Test**

To prove the hypothesis, hypothesis testing was carried out consisting of simultaneous hypothesis testing, direct effect testing and indirect effect testing.

### **4. RESULTS AND DISCUSSION**

RSUP Persahabatan is a class A hospital in the 2023 annual report, namely having a capacity of 365 beds with a Bed Occupancy Rate (BOR): 71.88%; Average Length of Stay (ALOS): 6.59/day; Turn Over Interval (TOI): 2.98/day and provides specialist and subspecialist medical services as well as supporting services.

Based on the questionnaire distributed by the researcher, the characteristics of the respondents in this study were divided into several categories, namely: job position, gender, age, marital status, and length of service. The following are the results of the analysis of respondent characteristics:

**Table 1. Characteristics of Respondents at Rumah Sakit Umum Pusat Persahabatan**

Indicator	Category	Frekuensi	Prosentase (%)
Gender	Male	9	5.3
	Female	160	94.7
Marital Status	Single	4	2.4
	Married	165	97.6
Age	20-30	4	2.4
	30-40	165	97.6
Formal Education	Diploma	105	62.1
	Bachelor	62	36.7
	Master	2	1.2
Length of Work	0-5 year	7	4.1
	5-10 year	162	95.9

**Table 2. Result Reliability Test and Average Variance Extracted (AVE) Variabel**

Dimension	Cronbach's Alpha	Composite Reliability	AVE
Attitude (X1)	0.906	0.927	0.596
Pharmacovigilans(X2)	0.918	0.939	0.588
Safety Culture (Z)	0.967	0.979	0.570
Patient Safety (Y)	0.925	0.944	0.614

**Table 3. Result Mediation Test**

Dimension	Estimasi	T Statistic	P Values	F Square
X1 □ Z □ Y	0.093	2.005	0.045	0.007
X2 □ Z □ Y	0.100	2.185	0.029	0.009

Based on table 2, the results of the reliability test and Average Variance Extracted (AVE) variables. all variables produce a cronbach alpha value > 0.6, composite reliability value > 0.7, AVE (average variance extracted) value > 0.5. The results of the variable construct reliability test show that all show valid and reliable results for further analysis.

Based on table 3, the results of the variable mediation test show that Safety Culture (Z) significantly mediates the relationship between Attitude (X1) and Implementation of Patient Safety Goals (Y), with a P-Value = 0.045 < 0.05 (Mediation Hypothesis Accepted). Safety Culture (Z) significantly mediates the relationship between Pharmacovigilance (X2) and Implementation of Patient Safety Goals (Y), with a P-Value = 0.029 < 0.05 (Mediation Hypothesis Accepted).

## **Discussion**

### **Attitude and pharmacovigilance on the implementation of patient safety goals with safety culture as an intervening variable**

The results of the first hypothesis study indicate that there is a significant attitude, pharmacovigilance, and safety culture together on the Implementation of Patient Safety Goals for nurses at RSUP Persahabatan. This means that the variables of attitude, pharmacovigilance, and safety culture influence the implementation of patient safety goals. The three box method analysis of the practice indicator in pharmacovigilance is the lowest average indicator where the lowest score is in item X2 3.4 "You have attended a pharmacovigilance training session (training on detecting ADR events - adverse drug reactions and their handling)" which means that training is still needed on detecting ADR events / adverse drug reactions for nurses at the RSUP Persahabatan so that there is an increase in safety culture and implementation of patient safety goals. Based on Zahra's research (2022), pharmacovigilance training programs can address this challenge by equipping health professionals with the knowledge, skills, and resources needed to effectively monitor and report ADRs. These programs can help raise awareness of drug safety issues, improve safety culture, and improve the quality of health services. The three box method analysis index value on the work pressure indicator in patient safety culture also obtained a low average where the lowest score was in item (Z.3.1) with an index value of 122.3 in the work pressure dimension, namely in the statement "I can always share the workload with fellow health workers". This shows that even though the value is included in the high criteria, there are still nurses who are not willing to share the workload with other nurses. According to research by Mutia et al. (2020), the dimension that has a low value is the workload condition dimension. Workload conditions can be categorized in terms of workforce staffing, workflow, personal or social factors, physical environment, and organizational factors.

### **Attitudes on Implementation of Patient Safety Targets**

The results of the second hypothesis study show that there is a significant attitudes on increasing the implementation of patient safety goals. The existence of a positive influence indicates that the better the attitude will increase the implementation of patient safety targets.

It is known that the results of the three box method analysis show that for the average index dimension, the subjective norm dimension is low. In the incident reporting dimension, there is an indicator that has the lowest value, namely "I implement a patient safety program because my colleagues also implement it". This shows that nurses implement safety programs. pasien

bukan dikarenakan teman sejawat melainkan memang karena tugas mereka.

Based on Nuryanti's research (2023), attitude factors is at a high level that influences nurses' intentions to behave towards the implementation of patient safety targets, as shown by the results of the three-box method analysis showing that attitudes have a significant effect on intentions. Attitude is a mental and neural condition obtained from experience, which directs and dynamically influences individual responses to all related objects and situations. Attitude is determined by the belief in predicting outcomes and the importance of the objects and situations faced. Meanwhile, subjective norms have the lowest influence. This subjective norm is determined by what other people think a person should do and a person's motivation to comply.

### **Pharmacovigilance on the Implementation of Patient Safety Goals**

The results of the third hypothesis study show that there is a significant of pharmacovigilance on the implementation of patient safety goals for nurses at the RSUP Persahabatan. The existence of a positive influence indicates that the higher the ability of pharmacovigilance will increase the implementation of patient safety goals.

It is known that the results of the three-box method analysis show that the attitude dimension in pharmacovigilance obtains the lowest average index value. This shows that pharmacovigilance attitudes need to be further improved in their implementation, so that the three dimensions can run well.

Based on Mochammad's research (2019), the target of patient safety is to improve the safety of high alert drugs. The most effective handling of high alert is by reducing errors in administering the drug, namely by improving the storage process for drugs that need to be watched out for, including moving high alert drugs from the pharmacy unit to patient care. Policies or procedures also identify which areas require high alert drugs, including inpatient care, as well as proper labeling of high alert drugs and how to store them in those areas.

### **Attitudes on Safety Culture**

The results of the fourth hypothesis study show that there is a significant of attitudes on improving safety culture. The existence of a positive influence indicates that the better the attitude will be influenced by a good safety culture. This study found that if attitudes have a positive effect on safety culture, so if the nurse's attitude is low, the safety culture will also decrease.

Based on Nivalinda's research (2013), the more effective the leadership style of the head of the room, the better the implementation of safety culture. Leaders who are effective in implementing a certain leadership style need to adjust their leadership style to the

characteristics of subordinates and situations, and combine several leadership styles depending on the situation and conditions faced. This principle includes being able to recognize the needs of subordinates, stimulate and try to fulfill those needs, and provide praise or rewards for success in achieving goals. This is also included in the implementation of patient safety culture. Nurses are also motivated by their work to achieve patient safety targets supported by physiological needs, safety, attention and love, self-esteem and self-actualization.

### **Pharmacovigilance on Safety Culture**

The results of the fifth hypothesis study showed that there was a significant of pharmacovigilance on improving safety culture. The lowest index value was at X2 3.4 in the pharmacovigilance attitude dimension, namely "Reporting ADRs will improve patient safety". This shows that ADR reporting is very important for nurses. In the average dimension index, it was found that the average index value in the attitude dimension was lower when compared to the other 2 dimensions, namely the knowledge and practice dimensions. This shows that pharmacovigilance attitudes need to be further improved in their implementation, so that the three dimensions can run well.

### **Safety Culture on the Implementation of Patient Safety Targets**

The lowest index value is in Y 2.1, namely in the dimension of Improving the safety of high alert drugs, namely "I carry out assessments, monitoring, and evaluations if a patient has a drug allergy" with an index of 126.8. This shows that although the value is included in the high criteria, there are still nurses who need knowledge in conducting assessments, monitoring, and evaluations if a patient has a drug allergy at RSUP Persahabatan.

Based on Ira's research (2020), in implementing increased drugs that need to be watched out for (high alert) it is very important for patient safety and preventing patient safety incidents caused by errors in prescribing, storing, and administering high alert drugs. The need for joint training and socialization is important to know how to assess, monitor and evaluate if an adverse drug reaction occurs. If an adverse drug reaction occurs, the nurse must report it to the doctor and KFT and be followed up for further therapy care. Good cooperation and communication must also be applied in a safety culture.

## **5. CONCLUSION**

Attitude, pharmacovigilance, and patient safety culture together have a significant on the implementation of patient safety goals at RSUP Persahabatan. The implementation of high patient safety goals is determined by the pharmacovigilance and attitudes of hospital

employees with a well-formed safety culture.

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