



## Factors that influence the implementation of patient's safety culture by ward nurses in district general hospital<sup>☆</sup>



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### KEYWORDS

Knowledge and motivation;  
Leadership behavior;  
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### Abstract

**Objective:** This study aims to determine the influencing factors of patient safety culture implementation by ward nurses in the hospital.

**Method:** This research used descriptive correlation with cross-sectional approach. The study population was 205 respondents. Data obtained by distributing valid and reliable questionnaires. Univariate and bivariate data were analyzed using chi-square test.

**Results:** The results showed that 60.5% of nurses had good patient safety knowledge. A total of 57.5% of nurses had high motivation and stated that leader behaviors supported patient safety implementation (54.6%). In another hand, 51.2% of nurses said they had implemented patient safety culture. In the next analysis, there was a significant relationship between nurses' knowledge, the motivation of patient safety, and the behavior leaders with its implementation of patient safety culture ( $p < 0.05$ ).

**Conclusions:** This study shows the individual factors influence the implementation of patient's safety culture in hospital.

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### Introduction

Patient safety culture is a critical aspect for maintaining of healthcare delivery and become one of a global important issue.<sup>1</sup> World Health Organization has revealed that 1 out of 10 patients experienced injury, with at least 50% of them were preventable. In a study about frequency and prevention of injury in all 26 low and middle-income countries, the incidence rate was around 8%, of which 83% could be prevented, and 30% caused death.<sup>2</sup> Adverse events are defined as events which endanger the patient that happened

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as a result of hospitalization.<sup>3</sup> An estimated 421 million hospitalizations take place in the world each year, and about 42.7 million adverse events occur in patients during hospitalization including medication errors, infection, and falling patients, compressed injuries to death. Approximately two-thirds of all incidents occur in low and middle income countries.<sup>4,5</sup>

The rate of adverse events of healthcare system is very high in developing countries.<sup>6</sup> Based on data published in 2018, the Indonesian Ministry of Health reported 189 patient safety incidents out of 289 reports in 2015, 588 incidents out of 668 reports in 2016, and 1647 incident reports in 2017. Hospital as one of healthcare facilities for people must pay attention to their quality of service to meet the quality of service which expected by the society, especially in providing security for patients. Therefore, patient safety is a hospital service system that provides a safer place for patient care.<sup>7</sup> One of the important objectives of implementing patient safety systems in hospitals is to prevent and to reduce Patient Safety Incidence (PSI) in health services. The occurrence of PSI will cause a detrimental effect for the hospital, staff, and especially patients as service recipients. Another impact that might be caused is the decline of public trust level towards health services.

In response to many patients being harmed and cost following that, hospitals started to realize that learning from prior mistakes and building a culture of safety which involve professionals, organization, and patient is important toward patient safety improvement.<sup>8</sup> Creating a patient safety culture is very important and requires the support of the role of the organization.<sup>2</sup> Promoting patient safety culture in health services requires an optimal role in nursing. Nursing has a key role to cut down adverse events.<sup>9</sup> Patient safety culture implementation is very complex and can be influenced by many factors. Various factors that might contribute to the application of patient safety culture need to be anticipated so that nurses' role can be optimized in implementing patient safety culture programs.

## Method

This research is a quantitative type with descriptive correlational research design using an analytical method with cross-sectional approach. This study aims to determine the dynamics of the correlation between risk factors and their effects, through approaches, observations or data collection at the same time (point time approach). The population in this study was 205 nurses in district general hospital who had minimum working criteria for at least one year, a minimum of vocational nursing degree, and willing to be a respondent. Respondents are ward nurses in district general hospital.

Research variables consist of independent and dependent variable. Independent variables in this study were knowledge, motivation, and support of leaders. The dependent variable was patient safety culture implementation in ward nurses of district general hospital.

Data collection was done using a structured questionnaire consist of demographic data (4 items of questions), knowledge (30 items of questions), motivation (30 items of questions), leadership support (35 items of questions), and patient safety culture implementation (36 questions).

The data were collected by the distributing questionnaires from February until April 2018. The data collectors were a researcher and a nurse who not involved in the service at the ward.

Validity and reliability tests were performed on the variables of motivation, knowledge and leaders' support. Motivation has a validity value of 0.590–0.880 and reliability of 0.929. Knowledge has a validity value of 0.573–0.808 and reliability of 0.891. Leaders' support has validity values 0.574–0.815 and reliability of 0.918.

Univariate analysis was used to see the frequency distribution of various variables include age, sex, length of work, education, knowledge, nurses' motivation about patient safety, leaders' support, and patient safety culture implementation.

Bivariate analysis was used to prove the existence of a meaningful correlation between independent variables with the dependent variable. Then the statistical test was done using Chi-square ( $\chi^2$ ) method. Significant testing was carried out using the  $\alpha$  as significance limit (0.05) and 95% confidence interval (confidence level).

## Results

This research was conducted in April 2018 in a district general hospital. In the research planning process, the population in this study was 205 nurses who met the inclusion and exclusion criteria. Based on the results of the study it was found that on average age from 205 nurses is 32.63 years old with a standard deviation of 7.883, median 31.50, the youngest age is 22 and the oldest age is 55 years old. Then from 163 nurses (79.5%) were female, 163 nurses (79.5%) had vocational education, and 115 nurses (56%) had worked for  $\geq 5$  years. It was found that 105 from 205 nurses (51.2%) had a good patient safety culture. 124 nurses (60.5%) know about applying a good safety culture. 118 nurses (57.5%) had high motivation in the application of patient safety culture, and 112 nurses (54.6%) had leaders support in the application of patient safety culture (Table 1).

Chi-square test showed the obtained  $p$ -value = 0.007 ( $<\alpha = 0.05$ ) using  $\alpha$  5% (0.05). It showed that there was an influence between the level of knowledge of nurses with patient safety culture implementation with POR value = 4.580 (95% CI = 1.605–13.067), which also means that nurses with poor knowledge have four times greater chance of implementing poor patient safety culture compared to nurses with good knowledge.

The results also showed there was a correlation between the motivation of nurses with the implementation of patient safety culture with  $p$  value of 0.002 ( $<\alpha = 0.05$ ). POR = 5.906 (95% CI = 2.044–17.063) indicates that the low-motivated nurses were five times more likely to implement poor patient safety culture compared to high-motivated nurses. There was also a correlation between leadership support and the implementation of patient safety culture with  $p$  value of 0.028 ( $<\alpha = 0.05$ ). POR = 3.357 (95% CI = 1.237–9.110) which means that ineffective leaders support was three times more likely to implement poor patient safety culture compared with effective leaders' support.

**Table 1** Correlation between knowledge, motivation, leaders support and implementation of ward nurses' patient safety culture in district general hospital ( $n = 205$ ).

Factors ( $n = 205$ )	POR (95%CI)	$p$ value
Knowledge	4.580 (1.605–13.067)	0.007
MotivationLeaders support	5.906 (2.044–17.063)3.357 (1.237–9.110)	0.0020.028

## Discussion

Nurses have the ability and authority to perform nursing interventions based on the knowledge possessed and acquired through nursing education. Nurses should be aware of their roles so they can participate actively in implementing hospital patient safety. Nurses also must understand the six patient safety goals such as, accurate identification of patients, improvement of effective communication, improvement of drug safety, exact location certainty, proper procedure, right patient operation, reduction of risk of infection related to health services, reduction in risk of falls so that nurses can carry out care nursing to patients safely.<sup>10</sup>

This study recommended that some interventions are needed to improve the patient safety culture among health care providers especially ward nurses in the hospital. Patient safety culture is defined as "the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's safety management".<sup>11,12</sup> Patient safety culture emphasizes prevention of errors that lead to adverse health care events.

Efforts to implement patient safety depend on the knowledge of nurses. If the nurse who has adequate knowledge implements patient safety culture, the patient's safety behavior will be long-lasting. A nurse who provides nursing care must have good knowledge, skills and attitudes to deal with the complexity of health care. Without adequate knowledge, health care providers including nurses cannot apply and maintain patient safety culture.<sup>13</sup> Implementation of patient safety culture training for nurses could improve the patient safety culture.<sup>14</sup>

Motivation is energy which encourages a person to carry out the responsibilities to achieve their goals. Nurses' performances in providing nursing care are not always stable because their performances are affected by their motivation. Nurses are motivated by physiological needs, safety, attention and love, self-esteem and self-actualization. Nurses are also motivated by needs for knowledge.<sup>5</sup> In practice, nurses who apply patient safety culture reflects their work performance which also influenced by their motivations (work motivation). Work motivation is a process that is internal or external to each employee which causes an enthusiastic attitude and persistence in carrying out the tasks.<sup>8</sup>

The success of implementing innovation for clinical practice requires not only the support and intervention from the leaders but also the organizational support and implementation tools. This condition showed that a strong safety culture needs to be supported by a strong leadership style which able to manage patient safety performance and human resource management systems. Nurse managers who

become the leaders must improve patient safety in their workplace by guiding personnel through direct commands because manager's support is the backbone of a safety system.<sup>3,15</sup> That kind of leadership has a positive impact to improve patient safety by reducing errors and mistakes.

## Conflict of interests

The authors declared no potential conflicts of interest with respect to research, authorship, and/or publication of this article.

Some measurement limitation was happened in this study. This study recommended to additional development work in measuring this individual factor's and to conduct some interventions to improve the patient safety culture among health care providers especially ward nurses in the hospital.

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