



(REVIEW ARTICLE)



Analysis of factors that influence the implementation of patient safety by nurses in hospitals: Literature review

Tarisah Nur Ahlina *

Department of Health Policy and Administration, Faculty of Public Health, Airlangga University, Surabaya, Indonesia.

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Abstract

Patient safety is an issue related to health services that has been considered a global problem and must be a priority in the provision of health services in hospitals. Until now, patient safety incident reports in Indonesia still show a high incidence. In this case, nursing staff as health workers will be the main determining factor in determining the quality of patient safety system implementation, because they have more frequent interaction time with patients than other health workers. Meanwhile, there are still many nurses who do not implement patient safety. Objective: to determine the factors that influence the implementation of patient safety by nurses in hospitals. Method: This research uses a literature review method. Data was searched through a search on Google Scholar using the keywords, namely "Factors" AND "Nurse" AND "Patient Safety" AND "Hospital". Searches on ScienceDirect use the keywords, namely "Factor" AND "Nurse" AND "Patient Safety" AND "Hospital". The references used are literature published within the last 5 years (2019-2023). Results: Based on the results of a review of six selected pieces of literature, it was found that factors that can influence the implementation of patient safety by nurses can be grouped into 2 categories, namely individual level factors and organizational level factors. Conclusion: Based on the 2 known factor categories, factor optimization must be carried out accompanied by evaluation of the work system related to these factors, so that it will minimize the occurrence of Patient Safety Incidents.

Keywords: Hospital; Individual Factors; Nurse; Organizational Factors; Patient Safety

1. Introduction

Patient safety is an issue related to health services that has been considered a global problem that is very important to pay attention to in its implementation. Patient safety must be a priority in providing health services in hospitals [17]. Safety culture is the awareness, values and perceptions about safety that all members of an organization must have, which is directly related to organizational operations [6]. Hospitals are required to pay attention to health issues, including following up on issues related to patient safety, which is one of the five important issues according to the provisions of the Ministry of Health of the Republic of Indonesia regarding safety in hospitals that must be considered [18]. This is because hospitals are one of the places that have great potential for work accidents. In this way, patient safety must be made a basic principle of hospital priority in providing health care in the hope that patients can avoid the risk of Patient Safety Incidents.

However, until now there is still a high number of patient safety incident reports in Indonesia. Based on data from the National Patient Safety Committee (KNKP), there continues to be an increase in the number of patient safety incident reports from 2015 to 2019 [15]. Where there was an increase in cases of 1,489 incident reports in 2019, bringing the total incident reports in 2019 to a total of 7,465 cases. This shows that there was a drastic increase in cases in 2019 compared to the previous year. Among the 7,465 cases, there were 38% Near Injury Events (KNC) or 2,837 cases, there

* Corresponding author: Tarisah Nur Ahlina

were 31% Non-Injury Events (KNC) or 2,314 cases, and there were 2,314 Unexpected Events (KTD) [15]. These incidents resulted in cases of no injuries, cases of minor injuries, cases of moderate injuries, cases of serious injuries, and cases of death.

In this case, nursing staff as health workers will be the main determining factor in determining the quality of patient safety system implementation, because they have more frequent interaction time with patients than other health workers. Nurses have several roles in implementing patient safety in hospitals, namely providing nursing services, implementing patient safety SOPs, providing education to patients and their families regarding the care provided, properly documenting nursing care, and reporting incidents related to patient safety in accordance with the SOPs implemented in hospitals [3]. Nurses are the largest component of the workforce in hospitals who are at the forefront of providing care or services to patients [22]. Nurses are well positioned to detect early signs of health hazards [11]. Therefore, the risk of making mistakes in providing actions or services to patients is very possible for nurses. In this way, nursing is a profession with a great responsibility in ensuring safety in patient care. Nurses are required to have the ability to realize their important role in the obligation to realize patient safety [7].

Meanwhile, in reality, it was found that based on the results of Lombogia's research in 2016 in Basri, et al 2021, it was stated that the application of nurses' skills in implementing patient safety regarding Standard Operating Procedures (SPO) for surgical patient care was only 40%, whereas skills were not implemented. nurses in implementing patient safety showed results of 44%. Based on data on the number of patient safety incidents, it is shown that there is still a need to reduce the number of incidents and even prevent incidents from occurring. This can be achieved through strengthening the implementation of patient safety, especially for nursing staff.

In this way, writing this scientific article is aimed at analyzing the factors that influence the implementation of patient safety by nurses in hospitals. It is hoped that the results of this research will provide benefits to hospitals and related parties in optimizing the factors that influence nurses in implementing patient safety, so that it will be able to reduce or even prevent the occurrence of Patient Safety Incidents.

2. Material and methods

In this research, a descriptive approach will be used, using the literature review method. Searching and collecting data was carried out through searches for previous research or scientific articles in journals available on National and International Journal Websites, namely Google Scholar and ScienceDirect. Searches on Google Scholar use the keywords, namely "Factors" AND "Nurse" AND "Patient Safety" AND "Hospital". Searches on ScienceDirect use the keywords, namely "Factor" AND "Nurse" AND "Patient Safety" AND "Hospital". The inclusion criteria in determining articles are literature published within the last 5 years (2019-2013), articles in the form of original articles, open access, full text, and written in Indonesian or English. The selection of articles was based on the research objective, namely to find out the types of factors related to nurses in implementing patient safety in hospitals, so the study used was an article that examined various factors that influence the implementation of patient safety by nurses in hospitals. Based on the search results, the author found several pieces of literature and then carried out filtering based on the abstract and a feasibility study of the entire content of the article. The author decided that there were six articles that were felt to be related to the topic of discussion to be used and combined and then reviewed and concluded in the Literature Review.

3. Results and discussion

Based on the search results, there were 6 selected articles originating from National and International Journal Websites, namely Google Scholar and ScienceDirect. There is one article published in 2019, one article published in 2020, three articles published in 2021, one article published in 2023. Of the 6 selected articles, 4 of them were published on Google Scholar and 2 of them were published on ScienceDirect.

Table 1 List of Articles

No.	Author	Research Title	Method	Result
1.	Kuraesin, et al.. [10]	Factors Associated with Implementation Patient Safety Culture in Nurses in	Quantitative research with a cross sectional research design	The results show that the statistical test results for the leadership variables were 0.001, competence 0.000 and effective communication 0.017 < P value (0.05), so it can be concluded that there is a significant

No.	Author	Research Title	Method	Result
		Inpatient Room		relationship between leadership, competence and effective communication on the implementation of patient safety culture among nurses in the ward. Hospital stay XX Serang. The value of the leadership variable is higher than the others and means that leadership is the factor that most influences the implementation of patient safety culture.
2.	Basri, et al. [2]	Factors Influencing Goal Implementation Patient Safety for Nurses in the UPT Inpatient Room Deli Serdang Regional Hospital	Descriptive research with sectional probability sampling using stratified random example	The results of the study showed that the implementation of effective and precise communication, the exact location of the procedure and the correct surgical patient was achieved by 100%, the implementation of patient identification was achieved by 91.5%, the increase in the safety of drugs that need to be watched out for was achieved by 94.9%, the implementation of reducing the risk of infection related to health services was achieved 94.9%, the implementation of reducing the risk of patient falls was achieved at 96.6% and the overall implementation of patient safety targets in general was 81.4, but the procedure was still not achieved at 100%.
3.	Yarnita, et al. [21]	Analysis of Factors Associated with Patient Safety Culture to Nurses in the Inpatient Room of Arifin Achmad Hospital, Riau Province	Quantitative approach with cross sectional probability sampling technique. Data collection by means of a questionnaire, data analysis with frequency distribution, chi square and logistic regression tests.	The research results show that there is a relationship between the implementation of patient safety and attitude (v -value 0.001), work team (v -value 0.017), and fatigue (v -value 0.013). Attitude is the factor most related to patient safety culture.
4.	Khairurrozi, et al. [9]	Factors That Influence Safety Culture Patients to Nurses in Providing Services to Patients in the Inpatient Room of Dr. Zubir Mahmud, East Aceh Regency	Analytical research with Cross Sectional design. With a sampling technique, namely Proportional Stratified Random Sampling	The results showed that the implementation of patient safety by nurses was influenced by the variables attitude ($p = 0.000$), education ($p = 0.004$), training ($p = 0.0001$), and length of service ($p = 0.0004$).
5.	Setyowati I, D [16]	Factors that influence the implementation of patient's safety culture by ward nurses in district general hospitals	Descriptive correlational research with a cross sectional approach	The results of the research show that the factors that influence nurses in implementing patient safety are based on significant relationship results, namely nurse knowledge, patient safety motivation, and leadership behavior with the implementation of patient safety culture.

No.	Author	Research Title	Method	Result
6.	Salih, et al. [14]	Patient safety attitudes and associated factors among nurses at Mansoura University Hospital: A cross sectional study	Descriptive research with a cross sectional approach. Data were analyzed using frequency, percentage, mean, standard deviation, Chi Squire test, and ANOVA test using SPSS	Factors that have a high influence on the implementation of patient safety by nurses are the level of education, experience, and attending training related to patient safety, with (p-Value < 0.01); while age and marital status have a small influence (p-Value < 0.05).

Based on the results of the review, it was found that every nurse in the hospital had implemented patient safety. Then it is also known that there are various factors that can influence the implementation of patient safety by nurses in hospitals. Based on further research, it is known that factors that can influence nurses in implementing patient safety in hospitals can be grouped into 2 categories, namely individual factors and organizational factors

3.1. Individual Factors

Individual factors are various factors related to the individual himself. Individual factors are factors that arise from within the individual and can influence a person's behavior and social interactions [4]. Based on the results of the review in the table above, several individual factors were found that influence the implementation of patient safety by nurses in hospitals, namely attitude, fatigue, motivation, experience, competence which includes the knowledge and education of nurses, age, marital status, and length of service of nurses. Attitude and fatigue can influence nurses in implementing patient safety culture [21]. The nurse's attitude towards safety culture is the nurse's perspective or evaluative statement regarding the implementation of safety culture in the hospital, which can be in the form of a positive or negative attitude. Negative attitudes towards patient safety will be held by nurses whose views, attitudes and nurse competencies are not in accordance with patient safety standards, and vice versa. Nurses with a positive attitude towards patient safety will show a collaborative attitude in their team, making it easier to help in team work. Meanwhile, nurses with a negative attitude will actually have a negative impact on team unity in carrying out their skills to provide care [20]. Meanwhile, based on Yarnita, et al 2020 showed that there is still an unsuccessful patient safety culture in hospitals because more than half of the nurses show a mismatch in their attitudes and behavior patterns towards safety with what is expected.

A nurse's attitude is influenced by three components, namely cognitive, behavioral and affection [9]. Nurses' motivation at work will influence the implementation and application of patient safety culture, as motivation is one of the components included in affection and cognitive which influences the emergence of a person's positive or negative attitudes [16]. Safety motivation possessed by nurses refers to the availability of nurses to strive for safety behavior. This can be considered as attitudes and perceptions of the factors that motivate safe or unsafe behavior in nurses [19]. Experience is one of the individual factors related to the implementation of patient safety by nurses, where the experience of nurses is one of the integrating components that influences a person's attitude and the way a person responds to something [14].

Another individual factor that influences nurses in implementing patient safety is competency which includes nurses' education and knowledge regarding patient safety procedures. Competence is a factor that plays an important role in the realization of the implementation of patient safety culture, because nurses with good competence will more easily accept and understand new knowledge and are willing and able to apply it when providing nursing services to patients [10]. The competency in question includes the knowledge and skills of nurses in the application of patient safety. Apart from that, nurses with skills and knowledge who have been well trained will be prepared to implement patient safety in hospitals. Nurse knowledge is one of the factors that has the most significant relationship in implementing patient safety [16].

Education is related to the implementation of safety culture by showing a p-Value = 0.004 [9]. It was found that the majority of respondents with low education implemented a poor patient safety culture. Nurse education has a positive impact or influence with knowledge, skills and attitudes that can influence the implementation of patient safety culture by nurses [1]. Also in line with research by Salih, et al. 2021 that there is a p-Value < 0.01, which means that there is an influence between education and nurse behavior in implementing patient safety culture. The implementation of patient safety culture by nurses in hospitals is also influenced by the nurse's age and marital status, but with a small influence with a p-value < 0.05 [14].

The implementation of patient safety culture is also related to the length of service of nurses with the results of statistical tests showing a p-value = 0.004 [9]. The length of time a nurse has worked leads to a tendency to implement a better patient safety culture. However, this is returned to each implementing nurse that the implementation of patient safety must always be implemented in every nursing care provision to improve the quality of health services.

3.2. Organizational Factors

Organizational factors are factors that can directly, immediately and on a large scale have an impact on employee work motivation which then influences employee performance [13]. Organizational factors can be a driving force for performance that can increase a company's ability to achieve sustainable goals [5]. Based on the results of the review in the table above, it was found that organizational factors influence nurses in implementing patient safety culture in hospitals, namely leadership, effective communication, work teams, and training from the organization. Leadership is the most important factor that plays a role in the implementation of patient safety by nurses, with evidence in the form of statistical test results with a p-value = 0.001 and is a variable with a higher value than other variables [10]. A leader's behavior or leadership style can be an inspiration for implementing nurses to continue to provide better service to patients. In this way, a leader must continue to improve his abilities and influence to provide an example and inspiration for his subordinates, including his implementing nurses. The results of statistical tests on the relationship between the implementation of patient safety culture and leadership behavior obtained a p-value < 0.05, which means that there is a significant relationship between the two [16]. Apart from that, it was also stated that there were 54.6% of nurses who stated that the leader's behavior was a support in implementing patient safety.

Other organizational factors that influence nurses in implementing patient safety is a work team with statistical test results with a p-value = 0.017 which shows that there is a significant relationship between the implementation of patient safety culture and the nurse work team in the hospital [21]. Teamwork can be defined as a series of activities carried out and managed by a group of people in one organization. What is meant by a good team is a team consisting of members who support and respect each other in carrying out their duties. In its implementation, cooperation and communication will be carried out within the various parts of the organization. A work team usually contains members with different expertise, who are then united to form a force in achieving organizational goals. Teamwork is also one of the main elements of competency that nurses must have [8].

As stated that communication in organizations can influence teamwork, the results of this research are supported by research by Basri, et al 2021 which states that effective communication is one of the main elements in achieving patient safety targets. This is because communication is the first cause of problems related to patient safety. Effective communication has a significant relationship with the implementation of patient safety by nurses with statistical test results with a p-value = 0.017 [10]. The implementation of patient safety in hospitals is influenced by the communication skills of health workers in hospitals, both nurses and doctors. Effective communication is one indicator of international patient safety goals. Communication is an important factor in establishing a therapeutic relationship between staff and patients, especially nurses as the main staff with the largest number [12]. Having open and good communication between health workers in carrying out their duties and with patients and their families in health consultations will reduce the incidence of misperceptions or misunderstandings, so that the occurrence of undesirable events due to errors in receiving messages can be minimized. In this way, effective communication must be carried out to avoid the risk of errors in providing nursing care by prioritizing aspects of accuracy, clarity, suitability to context both in terms of language and information, systematic flow and culture.

Apart from that, the organizational factor that influences nurses in implementing patient safety culture in hospitals is the training provided by the organization to its workers regarding the skills expected by the organization. Training has a strong influence on the implementation of patient safety by nurses with statistical test results showing a p-value = 0.006 [14]. There was an increase in nurses' perceptions of patient safety before and after implementing the training program for nurses [9]. There is a tendency to implement a poor work safety culture among nurses who have never attended training due to their lack of skills in providing care.

4. Conclusion

Based on the results of the literature review, it is known that factors that can influence nurses in implementing patient safety culture in hospitals can be grouped into 2 categories, namely individual factors and organizational factors. Individual factors that influence the implementation of patient safety culture by nurses in hospitals, namely attitude, fatigue, motivation, experience, competence which includes the knowledge and education of nurses, age, marital status, and length of service of nurses. Organizational factors that influence the implementation of patient safety culture by nurses in hospitals, namely leadership, effective communication, work teams, and training from the organization. In this

way, optimization of the factors that influence nurses in implementing patient safety must be carried out, accompanied by an evaluation of the work system related to these factors, so that it will be able to reduce or even prevent the occurrence of Patient Safety Incidents.

Compliance with ethical standards

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No conflict of interest to be disclosed.

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