



Systematicc Review

Organizational Factors in Implementation of Patient Safety Culture in Hospitals: Systematic Literature Review

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ABSTRACT

Introduction: Patient safety culture is a program organized to minimize the risk of unexpected events and improve patient safety. This study is aimed to explain the relationship between organizational factors in the implementation of patient safety culture in hospitals based on empirical studies in the last five years.

Method: ProQuest, ScienceDirect, Sage, CINAHL, and google scholar databases have been searched using indexed keywords in the Medical Subject Heading (MeSH) on 2015-2020. JBI's review with a cross-sectional study design used to assess research quality. The PRISMA flowchart was used to summarize the study selection process in the literature review with inclusion and exclusion criteria adjusted to the PICOS framework.

Results: We found 13 journals that consist of three studies discuss about leadership, seven journals describe about resources, and three journals relate to organizational structure. Every country has a different characteristic in implementation of patient safety culture. The thirteen journals came from countries that divided in to three continents, there are Asia, Europe, and Africa. The results of this study show that leadership, resources, and organizational structure can optimize the application of patient safety culture. Leadership support motivates health workers in the room in implementing a patient safety culture. Adequate resources reduce the risk of accidents at work, and an effective organizational structure creates good and conducive performance.

Conclusions: Provide between three and five key words in alphabetical order, which accurately identify the paper's subject, purpose, method and focus. Don't use words or terms in the title as keywords. These keywords will be used for indexing purposes. Keywords cannot be more than 5 words or phrases in alphabetical order

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1. INTRODUCTION

Every action and procedure in a hospital carries a potential risk to patient safety. The World Health Organization (WHO) mentions the impact of the wrong action on one in 10 patients in the world and this issue is a global concern. Patient safety culture is the main foundation towards patient safety which is in line with the National Patient Safety Agency in the seven steps of patient safety (Hadi, 2017). Factors

that contribute to patient safety incidents include individual characteristics, nature of work, physical environment, interactions between individuals, organizations, social environment, management, and the external environment (Kurniavip & Damayanti, 2017). However, there are organizational factors that need to be explained to provide optimal service to patients.

The World Health Organization (WHO) in 2004 collected research on hospitals in America, England,

Denmark, and Australia found unexpected events with a range of 3.2% -16.6% (Ministry of Health of the Republic of Indonesia, 2015). Patient safety incidents related to surgical procedures (27%), medication errors (18.3%), and cases related to treatment-related infections (12.2%) (World Health Organization, 2017). Reports of patient safety incidents in Indonesia by the Hospital Patient Safety Committee in January 2010-April 2011 were 137 incidents consisting of 55.47% of adverse events, 40.15% of KNC, and 4.38% of others. East Java province ranks highest at 27% compared to the other eleven provinces (Syam, 2017).

Patient safety is maintained to minimize the risk of adverse events. If the implementation of patient safety is not optimal, it will harm patients, staff, and hospitals such as high costs, length of treatment, drug resistance, and decreased levels of public trust in health services. Patient safety culture contains values and beliefs in the application of patient safety, it is hoped that every member knows its application (Ismainar, 2015). Effective leadership creates good cooperation so that it supports the achievement of goals (Insan & Yuniawan, 2016). The reward system affects work motivation (Murni et al., 2016). Harmonious organizational structures improve nurse performance and affect hospital quality (Annisa, 2017). Job design refers to determining the performance of nurses in an organized manner so that the implementation of patient safety goals is met.

In efforts to minimize incidents or unexpected events, nursing as a professional service and other health workers must implement a patient safety culture in hospitals comprehensively. Gibson states that three factors that affect performance are individual factors, psychological factors, and organizational factors. The reason for choosing one of the factors from Gibron's theory is because it is expected to dig deeper information from organizational factors. Continuous organizational improvement is a positive element to improve patient safety (Olsen, 2018). In addition, research on variables in organizational factors related to patient safety culture has not been widely carried out. The study used a literature review method with the use of Gibson's theory of behavior and performance. The purpose of the literature review is to explain the sub-variables of organizational factors related to the implementation of patient safety culture in hospitals based on empirical studies in the last five years.

2. METHODS

2.1 Literature Search Strategy

The study protocol used *The Center for Review and Dissemination and the Joanna Briggs Institute Guideline* (JBI's review) with study design *cross-sectional* to assess study quality. Secondary data were obtained from national and international reputable journals in 2015-2020. *The databases* used include *ProQuest, ScienceDirect, Sage, CINAHL (Cumulative*

Index to Nursing and Allied Health Literature), and Google Scholar. Use of techniques *Boolean Logic* (AND, OR, NOT) to focus the search. The keywords of the national journal are "organizational factors" AND "patient safety culture" AND "hospitals". Keywords for international journals using *Medical Subject Heading* (MeSH).

2.2 Inclusion and Exclusion Criteria

Determination of literature inclusion and exclusion criteria adapted to the framework PICOS (Population, Issue of interest, Comparators, Outcomes, Study Design, and publication type). Inclusion criteria with the nursing population in the hospital, process interest in organizational factors, no comparison, expected outcomes organizational factors in the application of patient safety culture in hospitals, research design selected cross-sectional study, the publication year 2015-2020, use of language English and Indonesian. The inclusion criteria are the target journals to be obtained, while the exclusion criteria for issuing journals meet the inclusion criteria because the journals cannot be copied completely or access requirements.

2.3 Study Selection and Quality Assessment

The journal search was started by entering keywords in five *databases*. The literature search results obtained 3085 journal articles, the next stage was using Mendeley bibliography software to check for duplication and filtering by title and abstract. In addition, the available journals must be in *full text* (complete). Researchers filtered based on title (n=2972), abstract (n=99), and *full text* (n=13) which matched the title of the *literature review*. The literature review was adjusted according to the inclusion and exclusion criteria of as many as 13 articles. Assessment of the quality of journals in research (n=13) can be analyzed with the assessment of *The Joanna Briggs Institute* (JBI) *Critical Appraisal* with a cross-sectional study. *The checklist* consists of 8 questions with assessment criteria of 'yes', 'no', 'unclear', and 'not applicable'. A 'yes' score is worth one point while everything else is worth zero. Each score is then added up, if the research score is worth more than 50% it has good quality. All journals have a value of more than 50%. Eight journals with a value of 75% and the rest are worth 62.5%. So that all journals that fall into the criteria will be analyzed. The results of the selection of journals can be depicted in the *flow diagram* (Figure 1).

3. RESULTS

3.1 Study Characteristics

Literature search as a research basis includes 13 journals consisting of the results of the database SAGE

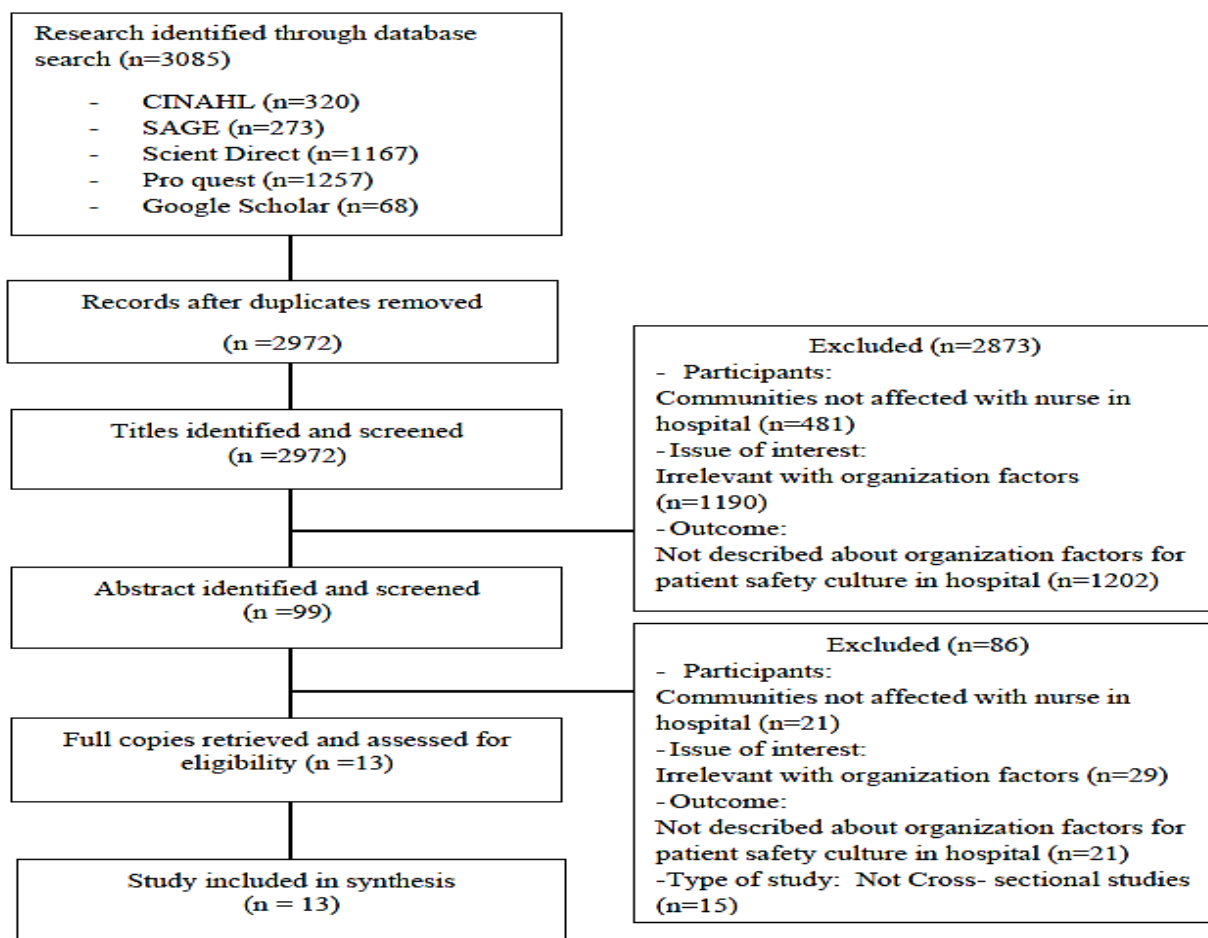


Figure 1. Flow diagram of literature review

(n = 1), Science Direct (n = 3), Pro-Quest (n = 7), and Google Scholar (n=2). The year of publication consists of 2016 (n=1), 2017 (n=3), 2018 (n=4), 2019 (n=4), and 2020 (n=1). Characteristics of the 13 journals that have passed the study selection and quality assessment. The majority of journals come from the database Pro Quest with a total of 7 journals. The study research came from 11 countries with a total of using the type of cross-sectional study which was widely published in 2018 and 2019.

Gibson (1997) stated three factors that influence performance, namely individual factors, psychological factors, and organizational factors. Organizational factors consist of resources, leadership, rewards, structure, and job design (Nursalam, 2016). The dimensions of organizational factors describe the relevant structural relationships that play a role in the perception of patient safety and safety behavior (Olsen, 2018). Organizational factors that contribute to research studies on the application of patient safety culture include leadership, resources, and structure.

Three studies address leadership in patient safety culture. The highest number of resources is a total of seven journals consisting of staffing and availability of facilities. Teamwork affects patient safety culture in three journals found. Thirteen

journals were obtained from three continents, namely Asia, Europe, and Africa. Nine research journals found in Asia include Indonesia, Jordan, Saudi Arabia, the Philippines, South Korea, Turkey, and Iran. European countries researching patient safety culture in Sweden and Norway. On the African continent, research was found in Ethiopia and Ghana.

3.2 Organizational Factors in the Implementation of Safety Culture

1. Leadership

Leadership has a positive impact on the motivation of nurses and increases the level of safety. Ineffective leadership support is three times more likely to implement a poor patient safety culture (Silalahi et al., 2019). If the leader can coordinate, become a role model, and optimize the implementation of patient safety culture in the room, it can be carried out well. A strong safety culture requires leadership who can clearly define and communicate a safety vision, respect, empower staff to achieve the vision (Faridah et al., 2019). The implementation of patient safety in the room is not only the responsibility of the leader but requires coordination between the leader and all members for its implementation.

2. Recourses

The resources found in the journal are human resources (*man*) and facilities/infrastructure (*material*). Staffing is an area that requires attention (Alswat et al., 2017). Adequate human resources in quality and quantity can have a positive impact on the continuity of patient safety in the room. Inadequate manpower and lack of systems for patient safety, cultural differences in work values, and intensive workload explain the low level of patient safety culture (Güneş et al., 2016; Mekonnen et al., 2017). The number of nursing staff and proper working hours in hospitals improve the quality and safety of care (Alrowely & Baker, 2019). The imbalance between the number of health workers and the workload has a negative impact on patients and nurses. The negative impacts of overwork are reduced compliance and quality of patient safety, double fatigue from work shifts, and increased medical errors (Khoshakhlagh et al., 2019).

Patient safety culture can be implemented with the support of supporting facilities and infrastructure. Good and safe working conditions for healthcare staff are the best way to improve health services and promote patient safety (Pousette et al., 2017). Adequate resources and the use of innovative technologies such as barcode scanning and *Computer Physician Order Entry* (CPOE) can reduce medical errors and increase positive outcomes for patients (Mihdawi et al., 2020). Standardized treatment rooms to provide services to patients provide safety for patients and nurses. The utilization of appropriate technology supports the work and reduces the workload of nurses.

3. Organizational Structure

Effective organizational structure creates teamwork that supports performance in achieving goals. The meaning of the work structure is not only a written work diagram but the existence of responsibility and cooperation. Teamwork is considered the highest factor supporting a patient safety culture (Akologo et al., 2019). *Patient Safety Culture* in the aspect of teamwork in the unit has a high response which indicates the importance of teamwork to contribute to patient safety. The creation of an organizational structure that supports a patient safety culture. The entire health team working together for the well-being of patients provides benefits, including reducing the number of medical errors, increasing patient safety, and reducing problems that cause fatigue (Ramos & Calidgid, 2018).

4. DISCUSSION

The application of patient safety culture is influenced by several factors, one of which is organizational factors. The theory of performance and behavior by Gibson in 1997 explains three factors that influence performance, namely individual factors, psychological factors, and organizational factors. Performance in this study refers to the application of patient safety culture in hospitals. Patient safety

culture is important to be implemented in hospitals because it can increase safety for patients and health workers and minimize the risk of unexpected events. Olsen (2018) describes organizational factors that describe relevant structural relationships in patient safety perceptions and behaviors. The book *Nursing Methodology: Practical Approach* (Nursalam, 2016) reveals organizational factors consisting of resources, leadership, rewards, structure, and job design. Based on the statement and theory of performance behavior, organizational factors play a role in the implementation of patient safety culture in hospitals. Patient safety culture in hospitals can be assessed by health workers applying the International Patient Safety Goals (IPSG) as a standard for quality and service safety. Patient safety goals consist of six goals, namely identifying patients correctly; improve effective communication; increase the safety of high alert medications; ensure the right location, right procedure, and right patient before undergoing a surgical procedure; reduce the risk of infection; and reduce the patient's risk of falling. The goal of patient safety goals is to encourage hospitals to make specific improvements that have a positive impact on improving the quality of hospital services and patient safety (Komite Akreditasi Rumah Sakit, 2017). Many organizational sub-factors affect the effectiveness of the implementation of the six patient safety goals by health workers in hospitals. This factor also plays a role in creating a patient safety culture. Organizational sub-factors found based on literacy in the last five years in the application of patient safety culture include leadership, resources, and organizational structure.

Leadership in the organization builds the attitudes and behavior of health workers in creating a patient safety culture in hospitals. Based on the articles found, leadership, management, and teamwork are interrelated to the implementation of patient safety culture directly or indirectly (Olsen, 2018). Leadership competence is important in supporting room motivation to improve patient safety. Factors that affect leadership competence include knowledge, skills, salary, working conditions (Sudariani et al., 2016). Delegating the authority of leaders to members properly improves good performance in the regulation of programs patient safety. Regulations in hospitals consist of policies, procedures, Standard Operating Procedures (SOP), and programs. Regulations related to patient safety are designed to require the leader's responsibility in coordinating and directing its members.

Ineffective leadership support three times lowers patient safety culture compared to nurses who have good leadership support (Silalahi et al., 2019). In line with research conducted by Sudariani et al., (2016) The leadership of the ward head has a strategic value in increasing the motivation and performance of implementing nurses. Effective leadership supports nurses in implementing a patient safety culture in hospitals. Giving a role model leader

in the application of patient safety culture provides a positive perception for nurses. The transformational leadership style found in Indonesia and Norway enhances patient safety culture. The leadership style developed by James McGregor Burns (1978) and oriented towards improving the quality of achieving the desired goals of the organization. Optimal leadership can be achieved by cooperation and communication between leaders and the people they lead. Open communication regarding the importance of patient safety is an important aspect of providing health services. Effective communication is included in the second patient safety goal by distributing information in a timely, accurate, complete, clear, and easily understood manner by the recipient of the message. The journal found that Indonesia has a positive safety culture with communication as a supporting force.

Research in several countries shows inadequate manpower, lack of systems for patient safety, cultural differences in employee work values, and intensive workloads in hospitals can explain the low level of patient safety culture (Güneş et al., 2016; Mekonnen et al., 2017). Decrease of patient safety culture can occur because the staff needed at the hospital insufficiency. Research conducted in Saudi Arabia, Turkey, and Ethiopia show the lack of human resources to be one of the weakness factors in implementing a patient safety culture in hospitals. The number of nurses must be proportional to the workload borne in each hospital room. The workload that is not balanced with the number of nurses in the room as happened in Iran and Jordan affects the application of patient safety cultural values. Research conducted by Khoshakhlagh et al., (2019) describes the negative impacts of excessive shift work, namely reduced compliance and quality of patient safety, double fatigue from work shifts, and increased medical errors. This negative impact has a direct impact on the implementation of a patient safety culture when increases burnout. When fatigue hits nurses, they tend to reduce vigilance in implementing a patient safety culture. Patient safety targets should run optimally, but the rating of burnout for nurses in some of these programs has decreased. So that problems such as identification errors, communication, and medical procedures can occur.

A conducive environment is supported by the arrangement of the location (room plan), facilities for patients and health workers, as well as available medical equipment. Based on articles it has been found that good and safe working conditions for health care staff are the best way to improve health services and promote patient safety (Pousette et al., 2017). Adequate resources and the use of innovative technologies such as scanning barcodes and Computer Physician Order Entry (CPOE) can reduce medical errors and increase positive outcomes for patients (Mihdawi et al., 2020). In line with research conducted by Neri et al., (2018) explaining that the availability of facilities and infrastructure is very

important to support patient safety. In a work environment with a strategic location, adequate health facilities, and medical devices are easier to implement a patient safety culture. Innovative medical technology supports the implementation of patient safety, this is because the development of technology helps the implementation of nursing care more efficiently and effectively. Adequacy of personal protective equipment is considered an important aspect in implementing patient safety goals as stated in the fifth IPSPG, health services must minimize the occurrence of infection.

Aspects of the overall organizational structure play a role in the application of patient safety culture starting from the head of the hospital, the Hospital Patient Safety team (TKPRS), and all health workers in the hospital. International patient safety goals (IPSPG) are one of the patient safety programs that are monitored and evaluated by TKPRS. A good organizational structure creates teamwork that supports performance in achieving goals. Without teamwork, the division of tasks and organizational structure cannot run according to the goals to be achieved. After tracing the journal, it was found that teamwork is considered the highest factor in supporting a patient safety culture (Akologo et al., 2019). Teamwork in patient safety culture has a high response, this indicates the importance of teamwork to contribute to patient safety. Ramos & Calidgid (2018) explained that the entire health team that coordinates for patient welfare shows a reduction in the number of medical.

5. CONCLUSION

The organizational sub-factors of leadership, resources, and organizational structure can optimize the application of patient safety culture. Leadership with transformational leadership style, having open communication, and building attitudes and behavior can motivate health workers in the room in implementing a patient safety culture. Human resources with a balanced number and load can reduce burnout in nurses, this affects the application of a patient safety culture. In a work environment with a strategic location, adequate health facilities, and medical devices are easier to implement a patient safety culture. A well-coordinated organizational structure reduces the number of medical errors and improves patient safety.

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