The Assessment of Patient Safety Culture Among Doctors, Nurses, and Pharmacists in a Public Hospital in Indonesia

Baiq Khuwailida Kartikasari[1], Samirah[2], Elida Zairina[2,3,4*]

[1] Master of Pharmaceutical Science Study Program, Faculty of Pharmacy, Universitas Airlangga, Surabaya

[2] Department of Pharmacy Practice, Faculty of Pharmacy, Universitas Airlangga, Surabaya

[3] Innovative Pharmacy Practice and Integrated Outcome Research (INACORE) Group, Universitas Airlangga, Surabaya

[4] Center for Patient Safety Research, Universitas Airlangga, Surabaya

ABSTRACT

Understanding the patient safety culture is one step toward improving patient safety. Patient safety culture is the main foundation of patient safety arrangements that aim to improve the quality of service of healthcare facilities by implementing risk management in all service areas. This study aimed to determine the cultural picture of patient safety among health workers in a public hospital in East Lombok. This study was observational and *cross-sectional,* using *the Hospital Survey of Patient Safety Culture* (HSOPSC) questionnaire from the *Association of Health Care and Research Quality* (AHRQ.) The population of this study was healthcare professionals (doctors, dentists, pharmacists, pharmaceutical technical personnel, nurses, and midwives) at Dr. R. Soedjono Selong Hospital in East Lombok. Descriptive and inferential statistics were used to adjust frequency distribution tables to identify variable relationship differences. The results analysis followed the guidelines from AHRQ, and univariate analysis was carried out. Among the 250 employees invited to participate, 238 (95.2%) completed the surveys. The dimension with the highest percentage of positive responses was an organizational learning-continuous improvement (91.3%), and the dimension with the lowest positive responses was staffing (42.5%). Generally, the patient safety culture in health workers at Dr. R. Soejono belongs to the strong culture (70.34%). Hospital management needs to improve and evaluate dimensions with a low positive response. Building a strong patient safety culture is essential to enhance the quality of service. Creating a positive safety culture for patients is unavoidable by taking steps that support all dimensions of the safety culture.

Keywords : health workers; hospital; HSOPSC; patient safety culture

INTRODUCTION

The basic principle in healthcare services is the safety of patients receiving health services. Because patient safety is a global concern, healthcare providers in any country must ensure patient safety. Unsafe and low-quality health services lead to reduced and even harmful health outcomes[1].

Patient safety is at the heart of quality healthcare. Safety is a global concept that encompasses efficiency, safety in care, the active role of service providers, patient satisfaction, and patient families. Safety is defined as a condition when an individual is free from injury and unintentional errors[2,3]. The Institute of Medicine (IOM) emphasizes the importance of health organizations' safety culture to ensure patients are not harmed by supposed-to-cure health services[4]. Patient safety arrangements aim to improve the quality of healthcare facility services by applying risk management in all aspects of services provided by healthcare facilities[5].

The patient safety culture is a cornerstone for patient safety. Creating a culture is one of the numerous efforts to minimize unexpected events related to patient safety[6]. A positive patient safety culture is characterized as a culture where safety has been made an organizational priority, and staff works as a team to complete tasks and reduce errors, open and transparent communication in discussing near-injury and adverse events, and an emphasis on learning from mistakes[7].

Hospitals must strive to improve patient safety and service quality as service providers. As health service institutions, hospitals aim to improve quality and provide services based on health service standards. Therefore, hospitals must provide safe and rated service according to the specified

criteria. Hospitals must implement patient safety measures to provide a safer service process[8]. All hospital personnel should understand the significance of developing a patient safety culture when providing health care. A patient safety culture refers to the beliefs, values, and norms shared by all health workers and organizational staff that will influence actions and behavior. The culture of patient safety can be measured by determining what should be prioritized and how the attitudes and behaviors that deserve respect, support, and acceptance are related to patient safety. It is essential to build a patient safety culture evenly because there are various levels of services and service-implementing units in the health care systems[9].

Evaluating patient safety culture is essential to increase patient safety in healthcare settings. Patient safety is a tool for investigating organizational conditions that can lead to adverse events and patient harm. The patient safety culture evaluation provides a three-dimensional picture of the patient safety culture, highlighting its strengths and weaknesses. Each organizational culture has a unique quality strategy, and determining the organizational culture profile can help determine which strategies to use when developing patient safety measures[10].

There are numerous instruments for assessing patient safety culture, including the HSOPSC (Hospital Survey on Patient Safety Culture), MaPSaF (Manchester Patient Safety Assessment Framework), and SAQ (Safety Attitudes Questionnaire)[11]. Three commonly used instruments for measuring patient safety culture in hospitals, primary care facilities, and other healthcare facilities are the HSOPSC, MaPSaF, and SAQ. The three instruments were created using Reason's theory and can be used in various organizational settings. MaPSaF is a tool that can assess the maturity of a patient safety culture. However, using the MaPSaF instrument to assess patient safety culture is still uncommon. The MaPSaF instrument can be used at the individual or team/unit level in healthcare institutions. The SAQ is a relatively quick and brief instrument

that can be used to assess after an intervention has been administered. However, in some institutions, SAQ is regarded as being too superficial and thus insufficient to explain the aspect and dimension of the applied culture. The most commonly used instrument is HSOPCS, which consists of 10-dimensional questions. The findings indicate which dimensions require improvement. In the United States, the primary measurement is HSOPSC[11,12]. HSOPSC can assess individual, unit, or institutional patient safety culture[13]. HSOPSC instruments are used in settings other than hospitals, outpatient clinics, and primary care clinics. According to the study, any healthcare institution can use this questionnaire to assess and measure patient safety culture in their organization, identify changes in patient safety culture over time, and evaluate the impact of patient safety interventions. HSOPSC can assess and measure patient safety culture at the individual, unit, and organizational levels, ranging from management to security and cleaning staff[11].

Measuring the application of patient safety culture based on the Association Health Care and Research Quality (AHRQ) method is one method of evaluating and measuring the process of patient safety culture in the hospital. This AHRQ method measures from the perspective of hospital employees consisting of 12 dimensions, namely: 1) Teamwork within units; 2) supervisor/manager expectations and actions promoting patient safety; 3) organizational learning-continuous improvement; 4) management support for patient safety; 5) overall perception of patient safety; 6) feedback and communication about errors; 7) communication openness; 8) frequency of events reported; 9) teamwork across units 10) staffing; 11) handoffs & transitions; 12) nonpunitive response to errors[14].

Han et al. (2020) discovered a low level of nurse-patient safety culture (44.32 %) in Korean hospitals, with the highest score in the domain of managerial attitudes or supervision related to patient safety (64.85 %) and

cooperation between units (63.33%). Teamwork with other health workers (22.46 %) and incident response were the dimensions with the lowest scores (26.73%)[15]. Susatia et al. (2021) investigated the factors influencing hospital health workers' use of a patient safety culture. Anxiety and fear of a judgmental response to errors, open communication, and feedback from hospital management all impact the outcomes of implementing a patient safety culture[16]. Misnaniarti et al. (2016) conducted a study to assess the patient safety culture in Jakarta hospitals. They discovered that the results of the teamwork domain were the dimension with the highest score in patient safety culture (91.7 %) and the dimension with the lowest score, 22.7%, namely staff selection and punishment for errors[10]. The data show that patient safety culture varies in some areas. From the results of the previous study, the researchers want to find out the profile of patient safety culture among healthcare professionals at Dr. R. Soedjono Selong Hospital in East Lombok, which can be used to evaluate the implementation of patient safety and improve the quality of healthcare services. This study aimed to identify the patient safety culture description at Dr. R Soedjono Selong Hospital in East Lombok.

METHOD

This observational and cross-sectional study used *the Hospital Survey of Patient Safety Culture* (HSOPSC) questionnaire designed by the *Association of Health Care and Research Quality* (AHRQ.) The population of this study was healthcare professionals (doctors, pharmacists, pharmaceutical technical personnel, nurses, and midwives) at Dr. R. Soedjono Selong Hospital in East Lombok from September to December 2022. A purposive sampling technique was used in this study to recruit the eligible participants. Participants who completed the questionnaire were given souvenirs.

The healthcare professionals were recruited if they met the following inclusion criteria: 1) agreed to participate by signing the informed consent, 2) healthcare professionals who served in the outpatient or in-patient ward, and 3) Registered healthcare professionals with practice permits at the hospital. Those on study leave or with less than four years of work experience were excluded. The data were collected using the *Hospital Survey of Patient Safety Culture* (HSOPSC) questionnaire developed by *the Agency for Healthcare Research and Quality* (AHRQ) because HSOPS can be used to assess and measure patient safety culture at the individual, unit, and organizational levels, from managerial to security and cleaning service staff in the hospital.

The instrument has been validated in the previous study conducted by Tambajong, 2022[17]. This study was approved by Dr R. Soedjono Selong Hospital Research Ethics Committee on October 13 2022 (approval number: 02/EC/KEPRS/10/2022). The HSOPSC questionnaire consists of 42 questions covering 12 dimensions. Each question was arranged using positive questions and negative questions with the measurement of answers using the Likert Scale. Participants who agreed to participate were asked to sign a consent form. The survey was conducted with the participant's permission. Respondents in this study were informed of the study's purpose, benefits, and significance, and the data was collected anonymously. All responses were kept confidential and not shared with the hospital administration or anyone else. Because there were no interventions, the research procedure was risk-free. This paper-based study was administered with written informed consent and distributed to participants from various departments.

Following the AHRQ analysis guidelines, data were analyzed to determine the description of patient safety culture at each stage. 1) identifying positive and negative questions on a single dimension; 2) Counting the number of positive and negative responses on each dimension; 3) Counting the total number of responses on a single dimension; 4) The number of positive responses were

calculated by dividing the number of positive responses on one dimension by the total number of responses, and the results were expressed as a percentage of positive responses[14].

The overall patient safety culture profile is calculated similarly, i.e. the number of positive responses of all dimensions divided by the total number of responses. Based on the guidelines for the use of the HSOPSC questionnaire issued by AHRQ in 2018, the patient safety culture is included in the strong category if the positive response is >70%, the patient safety culture is moderate if the percentage of positive responses is 50% - 70%, and the patient safety culture is low if the positive response is < 50%[14]. In addition, a univariate analysis was performed using SPSS version 22 to determine each dimension's frequency distribution and description.

RESULTS AND DISCUSSION

Among the 250 employees invited to participate, 238 (95.2%) completed the surveys. The characteristics of respondents were grouped by sex, age, last education, profession, period of working in the hospital, period of working in the unit where they served, time working as healthcare professionals, duration of work per week, and interaction with patients. The demographic characteristics of participants can be seen in Table I.

Patient Safety Culture Dimension

Based on the questionnaire's answers and the data analysis results, health workers' positive response on 12 dimensions of patient safety culture was relatively strong (positive response of 70.34%). The dimension with the highest positive response is the organizational learning-continuous improvement dimensions (91.3%), teamwork (87.7%), and supervisor/manager expectations & actions that support patient safety (81.6%). In comparison, the dimension with the lowest positive response is staffing, with a positive response percentage of 42.5% (Table II) (Figure 1). This shows that as one of the public

hospitals with the B category, Dr. R Soedjono Selong has managed the patient safety culture quite well.

The belief, values, and norms shared by health practitioners and all administrative staff that can influence actions and behavior are called the patient safety culture[9]. The individual and group values, attitudes, perceptions, competencies, and behavior patterns that form a commitment to implementing patient safety in a health organization create an organization's safety culture[14]. Patient safety culture is essential when providing healthcare services because it prioritizes patient safety, which can improve service quality[18]. Healthcare organizations are constantly striving to improve quality and safety, and the significance of establishing a safety culture is now widely acknowledged. Creating a safety culture in healthcare organizations is critical for preventing and reducing errors and improving overall care quality. Fundamentally, understanding the values, beliefs, and norms of what is essential to an organization and what attitudes and behaviors are appropriate and expected regarding patient safety is required for safety culture[19].

According to the Hospital Survey on Patient Safety Culture User Comparative Database Report 2014, dimensions with the highest positive response for most hospitals include organizational learning-continuous improvement dimensions, supervisor/ manager expectations & actions that support patient safety, and teamwork[20]. Based on this study's findings, of the 12 dimensions of the patient safety culture, the organizational learning-continuous improvement dimension received the highest percentage of positive responses (91.3%). Similar results in Kabul and Indonesia show that the organizational learning-continuous improvement dimension gets the most positive responses. The organizational learning- continuous improvement dimension received the highest positive response (75.0%) in a study on patient safety culture at Estiqlal Hospital in Kabul[21]. Another study conducted in 2019 at Anna

Table Ia. Demographic Characteristics of Participants (n=238)

Characteristic	Frequency (%)
Gender	
Male	74 (31.1%)
Female	164 (68.9%)
Age (Years)	
< 30	28 (11.8%)
30-40	143 (60.1%)
> 40	67 (28.1%)
Education	
Diploma	119 (50.0%)
Bachelor's degree	41 (17.2%)
Profession	67 (28.2%)
Postgraduate	1 (0.4%)
Specialist	10 (4.2%)
Position	
Dentist	2 (0.8%)
Medical specialist	10 (4.2%)
General practitioners	9 (3.8%)
Pharmacist assistant	15 (6.3%)
Pharmacist	6 (2.5%)
Nurse	150 (63.0%)
Midwife	46 (19.3%)
Event Report in the past 12 months	
No event reports	76 (31.9%)
1 to 2 event reports	62 (26.1%)
3 to 5 event reports	42 (17.6%)
6 to 10 event reports	31 (13%)
11 to 20 event reports	8 (3.4%)
21 event reports or more	19 (8%)
Time worked in the hospital (years)	
1-5	24 (10.0%)
6-10	103 (43.3%)
11-15	53 (22.3%)
16-20	25 (10.5%)
≥ 21	33 (13.9%)
Time worked in the unit (years)	
<1	15 (6.3%)
1-5	74 (31.1%)
6-10	105 (44.1%)
11-15	30 (12.6%)
16-20	8 (3.4%)
≥ 21	6 (2.5%)

Table Ib. Demographic Characteristics of Participants (n=238)

Characteristic	Frequency (%)
Time working as a healthcare professional (years)	
<1	2 (0.8%)
1-5	29 (12.2%)
6-10	104 (43.7%)
11-15	54 (22.7%)
16-20 years	22 (9.3%)
≥ 21	27(11.3%)
Weekly workload (hours in a week)	
< 20	7 (2.9%)
20-39	48 (20.2%)
40-59	165 (69.3%)
60-79	12 (5.1%)
80-99	4 (1.7%)
100	2 (0.8%)
Interaction with patient	
Yes	229 (96.2%)
No	9 (3.8%)

The results show that most respondents were female (68.9%; n=164) and 30-40 years (60.1%; n=143). Most respondents were nurses (63.0%; n=150), and 50.0% (n=119) of respondents had a diploma education background with a working period in the hospital of 6-10 years (43.3%; n=103).

Medika Hospital Bekasi City by Febriyanty and Utami found the same results, with organizational learning- continuous improvement receiving the highest percentage of positive responses (99.79%). The high rate of positive organizational-learning continuous improvement demonstrates that hospitals actively pursue activity programs to improve patient safety, learn from mistakes to make better changes, and assess their effectiveness[18]. Another study conducted in 2018 at Dr. Rasidin Padang by Mandriani et al. revealed different results, with the supervisor/manager expectations and actions promoting patient safety dimension and actions that supported patient safety receiving the highest percentage of positive responses (78.0%)[22]. This dimension indicates how much supervisors/managers consider staff advice to improve patient safety, reward staff for following patient safety procedures, and do not ignore patient safety concerns[20]. Another dimension that received

the highest positive responses at Dr. R. Soedjono Selong is teamwork (87.7%) and supervisor/manager expectations and actions that support patient safety (81.6%). The teamwork dimension demonstrates how well employees support, respect, and collaborate.

In this study, from 12 dimensions of patient safety culture, the dimension with the lowest positive response was staffing (42.5%). This result is lower than the AHRQ Hospital Survey on Patient Safety Culture User Comparative Database Report 2014, which was 55.0%. According to this study's findings, the hospital staff distribution is still uneven, causing the health worker to work longer than the ideal time for patient service. This is demonstrated by the number of workers who work 40-59 hours per week (69.3%). Working hours that exceed the limit can put workers under pressure (stress). The balance between the demands given (workload) and the resources owned by someone to overcome

Table II. Patient Safety Culture Composites (n=238)

Composites	Number of responses (%)			Category
	Negative	Neither	Positive	
Teamwork within units	3.4 (n=18)	8.9 (n=28)	87.7 (n=192)	High
Organizational learning-continuous improvement	1.7 (n=10)	7.0 (n=22)	91.3 (n=206)	High
Staffing	24.5 (n=90)	33.0 (n=76)	42.5 (n=72)	Low
Overall perception of patient safety	17.1 (n=70)	18.1 (n=47)	64.8 (n=121)	Moderate
Nonpunitive response to error	27.4 (n=91)	19.0 (n=45)	53.6 (n=102)	Moderate
Supervisor/manager expectations and actions promoting patient safety	4.3 (n=21)	14.1 (n=42)	81.6 (n=175)	High
Feedback and communication about errors	5.2 (n=25)	31.2 (n=89)	63.6 (n=124)	Moderate
Communication openness	8.2 (n=39)	37.2 (n=100)	54.6 (n=99)	Moderate
Frequency of events reported	11.0 (n=50)	27.6 (n=74)	61.4 (n=114)	Moderate
Management support for patient safety	8.1 (n=39)	14.4 (n=41)	77.5 (n=158)	High
Teamwork across units	5.4 (n=26)	13.7 (n=40)	80.9 (n=172)	High
Handoffs and transitions	15.1 (n=61)	25.5 (n=65)	59.4 (n=112)	Moderate
Rating (Overall)	10.0 (n=45)	19.7 (n=54)	70.3 (n=139)	High

these demands (examples of experience, skills) determines a person's stress condition; when the needs received are more significant than the capabilities possessed, it will cause uncomfortable conditions[22]. The low percentage of positive responses to staff arrangement dimensions is consistent with Mandriani et al.'s study at Dr. Rasidin Padang Hospital, Indonesia, which shows a portion of staff arrangement dimensions of 40.0%. Kim Ren Jye's study found a low positive response to staff arrangements in his research at Sarawak public hospital in Malaysia. Staff at the hospital believe that increasing the number of employees is insufficient to meet the increased workload and ensure patient safety. As many as 87.0% of those polled work more than 40 hours weekly. Excessive working hours exhaust staff and increase the likelihood of medical care errors and adverse patient safety events[23].

A positive patient safety culture demonstrates that patient safety is an organizational priority, that staff works together to complete tasks and reduce errors, that open and transparent communication is used when discussing near-injury and adverse events, and that an emphasis is placed on learning from mistakes[7]. Organizations with a high patient safety culture are more open to learning from work system failures, whereas those with a low safety culture are the opposite [24]. A high patient safety culture is expected to improve health facility service quality by implementing risk management in all health facility services, which is the primary goal of patient safety arrangements[5]. The study's findings can guide organizations to improve dimensions with low and moderate scores to improve the quality of community services. Improving the dimension with insufficient positive responses (Staffing) could benefit patient safety. Inadequate staffing will likely cause stress because employees will be forced to work under pressure for extended periods. It is well established that working more than 12 hours increases the risk of making an error significantly[25].

Baiq Khuwailida Kartikasari, et al

Strengths and Limitations of Research

This study has widely used international standard instruments to describe the situation using standard criteria. However, there is a possibility of bias from respondents' non-objective grading because they are concerned about hospital management's punishment based on their responses. Researchers only use the survey method because they cannot access interviews, so they cannot tightly control all respondents' statements. Because the respondents in this study were only health workers and did not include general and administrative personnel, additional research using a sample of all staff is required to obtain a complete picture.

CONCLUSIONS

Building a strong patient safety culture is critical to improving the quality of healthcare services and ensuring the community's safety in all services. Five of the 12 patient safety culture dimensions are rated as low, six as moderate, and one as low. Dr. R. Soedjono Selong's patient safety culture is high (70.34%). The dimension with the highest percentage of positive responses (91.28%) was organizational learning - continuous improvement, and the dimension with the lowest rate of positive responses was staff management (42.5%). Hospital management should improve and evaluate dimensions with inadequate positive responses. The description of the patient safety culture dimension can be used to assess patient safety implementation and enhance the quality of healthcare services. Creating a positive safety culture for patients is unavoidable if all aspects of the safety culture are supported.

REFERENCES

1. WHO. Patient Safety Making health care safer. Published 2017. Accessed January 7, 2022. http://apps.who.int/bookorders.
2. AL-Mutairi A, AlFayyad I, Altannir Y, Al-Tannir M. Medication safety knowledge, attitude, and practice among hospital pharmacists in tertiary care hospitals in Saudi Arabia: a multi-centre study. *Archives of Public Health*. 2021;79(1).
3. Garrouste-Orgeas M, Philippart F, Bruel C, Max A, Lau N, Misset B. Overview of medical errors and adverse events. *Ann Intensive Care*. 2012;2(1):1-9.
4. Kohn LT, Corrigan JM, Donaldson MS. *To Err Is Human: Building a Safer Health System*. Vol 11. (Kohn LT, Corrigan JM, Donaldson MS, eds.). National Academy Press; 2000.
5. Kemenkes. Peraturan Menteri Kesehatan RI No. 11 Tahun 2017 Tentang Keselamatan Pasien. Published online 2017.
6. Wijaya IWM. *Gambaran Budaya Keselamatan Pasien Pada Tenaga Perawat*. Sekolah Tinggi Ilmu Kesehatan Wira Medika Bali; 2020.
7. Hall K, Shoemaker-Hunt S, Hoffman L, et al. *Making Healthcare Safer III: A Critical Analysis of Existing and Emerging Patient Safety Practices.*; 2020.
8. Pemerintah RI. Undang-Undang Republik Indonesia Nomor 44 Tahun 2009 Tentang Rumah Sakit. Published online 2009.
9. Rockville W, Sorra J, Yount N, Famolaro T, Gray L. *Hospital Survey on Patient Safety Culture Version 2.0: User's Guide*. Vol 19.; 2019. https://www.ahrq.gov/sops/surveys/hospital/index.html
10. Misnaniarti M, Iriviranty A, Ayuningtyas D. Evaluation of Patient Safety Culture and Organizational Culture as a Step in Patient Safety Improvement in a Hospital in Jakarta, Indonesia Evaluation of Patient Safety Culture and Organizational Culture as a Step in Patient Safety Improvement in a Hospit. *Patient Saf Qual Improv*. 2016;4(3):394-399. http://psj.mums.ac.ir/article_7169_daa02c1764d3bceb9f806fedacb7908f.pdf
11. Nur Y, Hanifa M, Dhamanti I.

Instrument for Measuring Patient Safety Culture Literature. *Jurnal Medicoeticolegal dan Manajemen Rumah Sakit*. 2021;10(11):158-176.

12. Davidson OM, Salisbury H, Curtis D. A Descriptive Comparative Analysis of the Strategies Used by Healthcare Professionals at a Rural Hospital in Jamaica to Promote Patient Safety A R T I C L E I N F O. *Patient Safety & Quality Improvement Journal*. 2014;4(4):427-433.

13. AlReshidi A, Farajat M, Ibrahim T, Alresheedi A, Elnefiely A, Alforaih F. Current Status and Predictors of Patient Safety Culture in Hospitals of Qassim Region, Saudi Arabia. *Dr Sulaiman Al Habib Medical Journal*. 2020;2(2):76.

14. Sorra J, Gray L, Streagle S, Famolaro T, Yount N, Behm J. *Hospital Survey on Patient Safety Culture: User's Guide*. 18th-0036-EF ed. AHRQ Publication; 2018. https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patientsafetyculture/hospital/userguide/hospitalusersguide.pdf

15. Han Y, Kim JS, Seo YJ. Cross-Sectional Study on Patient Safety Culture, Patient Safety Competency, and Adverse Events. *West J Nurs Res*. 2020;42(1):32-40.

16. Susatia B, Kusbaryanto, Sundari S. Faktor-faktor yang mempengaruhi penerapan budaya keselamatan pasien di RSI UNISMA Malang. *Jurnal Informasi Kesehatan Indonesia*. 2021;7(1):1-10.

17. Tambajong MG, Pramono D, Utarini A. View of Adaptasi Linguistik Kuesioner Hospital Survey on Patient Safety Culture ke Versi Indonesia. The Journal of Hospital Accreditation. Published 2022. Accessed April 1, 2022. http://jha.mutupelayanankesehatan.net/index.php/JHA/article/view/129/63

18. Febriyanty D, Utami D. Gambaran Budaya Keselamatan Pasien Berdasarkan Metode AHRQ Pada Pegawai Rs. Anna Medika Kota Bekasi Tahun 2018. *Jurnal Biologi Lingkungan, Industri, Kesehatan*. 2019;5(2):97-105.

19. Wagner VD. Patient Safety: A cultural affair. *AORN J*. 2014;100(4):355-357.

20. AHRQ. *Hospital Survey on Patient Safety Culture : User Comparative Data Based Report.*; 2014. www.ahrq.gov

21. Jabarkhil AQ, Tabatabaee SS, Jamali J, Moghri J. Assessment of patient safety culture among doctors, nurses, and midwives in a public hospital in Afghanistan. *Risk Manag Healthc Policy*. 2021;14:1211-1217.

22. Mandriani E, Hardisman H, Yetti H. Analisis Dimensi Budaya Keselamatan Pasien Oleh Petugas Kesehatan di RSUD dr Rasidin Padang Tahun 2018. *Jurnal Kesehatan Andalas*. 2019;8(1):131.

23. Kim Ren Jye A, Zin Hing C, Peter S, Bartholomew P, Senok J. Hospital survey on patient safety culture in Sarawak General Hospital: A cross sectional study. *Medical Journal Malaysia*. 2019;74(5):385-388.

24. Bowie P. Leadership and implementing a safety culture. *Practice Nurse*. 2010;40(10):32-35.

25. Elmontsri M, Almashrafi A, Banarsee R, Majeed A. Status of patient safety culture in Arab countries: a systematic review. *BMJ Open*. 2017;7:13487.