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Nurses' Perceptions of Patient Safety Culture During the Pandemic in Covid-19 Referral Hospitals

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A B S T R A C T

Patient safety culture is essential in creating a safe and healthy hospital environment. This study aims to portray nurses' perceptions of patient safety culture during the Pandemic in COVID-19 Referral Hospitals. This paper was a descriptive study. The population was nurses working in inpatient, Covid-19 isolation, intensive, and emergency rooms. In addition, the sample was 268 nurses with a stratified random sampling. Data collection used a questionnaire using Google Forms. It consisted of the demographic characteristics of respondents (name, gender, age, marital status, working time, education, nurse position, levels of nursing, and patient safety training) also nurses' perception of patient safety culture. The Hospital Survey on Patient Safety Culture (HSOPC) was an instrument to assess patient safety culture. Data analysis used IBM SPSS Statistics version 22.0 to describe the mean, median, minimum, and maximum values and presentation. Results showed that the mean patient safety culture among nurses in COVID-19 referral hospitals was 147.09 (62.55%). In addition, the lowest dimension of patient safety culture was feedback and communication (31.75%), while the highest was an organizational improvement (73.16%). Thus, the patient safety culture in the COVID-19 referral hospital still needed improvement. A good patient safety culture can increase patient safety and the quality of health services. Therefore, hospital management should optimize all dimensions of patient safety culture to ensure patient safety. Future research could explore predisposing factors of patient safety culture.

INTRODUCTION

Patient safety culture describes behavior, values, attitudes, perceptions, and competencies (both personally and in a group) to emphasize the organization's efforts, patterns, and capabilities in patient safety management (Ulrich and Kear, 2014). An organization with a good safety culture has mutual trust in communication, vigilance in patient safety, and confidence (Lee and Oh, 2020). Building a patient safety culture can establish and improve patient safety in the hospital. Thus, the hospital runs the program with focus and sustainability in achieving that goal (Herawati, 2015). However, building a culture is not easy. The biggest challenge is maintaining a positive culture (Syam, 2017).

A study before the COVID-19 Pandemic found that the average positive response to the nurse safety culture in Indonesia was 72.40%, with the lowest safety culture being the no-blame response and the highest culture being the expectations and actions of managers (Syam, 2017). Another research revealed that 44.55% of nurses felt good safety culture, 29.36% indicated good expectations and actions of managers, and 54.13% stated good feedback and communication in their organizations (Arini, 2018; Nurlindawati and Jannah, 2018; Fatonah and Yustiawan, 2020).

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Furthermore, there were three previous studies at COVID-19 referral hospitals. The first research showed that Patient Safety Goals (PSG) indicators 1 – 6 in the Hospital Quality Indicator Report at Hospital A from January to December 2019 got an average of 90.53%, while in 2020 was 91.28%. Thus, Hospital A has not fulfilled PGS indicators by 100%. In addition, only 56.52% of nurses at Hospital B were obedient to the seven rights of medication administration. Nurses in Hospital B also faced problems in implementing effective communication with the Situation, Background, Assessment, and Recommendation (SBAR) technique, with the value of Situation was 79%, Background was 64%, Assessment was 21%, and Recommendation was 100% (Ahsan, Noviyanti and Primanoviasari, 2018). Moreover, a report on the quality of patient safety indicators at Hospital C found problems of hand hygiene compliance among nurses, with a total achievement of 83.5% in 2019 and 85.67% in 2020 (Nazri, Juhariah S and Arif S, 2015). Thus, the authors concluded that three COVID-19 referral hospitals had problems with patient safety, even though patient safety is closely related to the safety culture in the hospital.

The COVID-19 Pandemic has forced healthcare providers to adapt quickly and appropriately. It also affects nurses as frontline workers to provide safe and effective nursing care. An investigation revealed that the hospital situation during the Pandemic was like a battlefield. Thus, anxiety in nurses is inevitable (Lee, Hong, and Park, 2020). Moreover, a previous study by Taylor et al. (Taylor et al., 2020) identified 343 patient safety concerns at 71 hospitals in Pennsylvania during the Pandemic. At the same time, several studies revealed that patient safety culture significantly influenced the implementation of patient safety (Han and Jung, 2017; Moon and Lee, 2017; Im and Park, 2018; Ha and Lee, 2019; Manapragada et al., 2019; Lee and Oh, 2020). Thus, patient safety culture is essential in improving healthcare service quality (Syam and Hastuti, 2018). However, research on the patient safety culture among nurses during the COVID-19 Pandemic was limited. Therefore, this study aims to portray nurses' perceptions of patient safety culture during the Pandemic in COVID-19 Referral Hospitals.

METHOD

This paper was a descriptive study. The population was nurses working in inpatient, Covid-19 isolation, intensive, and emergency rooms. The sample was 268 nurses with a stratified random sampling. The sample size used in each hospital and room depended on the population (Swarjana, 2016). The inclusion criteria were nurses with six months minimum working time in the hospital and a minimum nursing diploma. Data collection used a questionnaire using Google Forms. It consisted of the Demographic characteristics of respondents (name, gender, age, marital status, working time, education, nurse position, levels of nursing, and patient safety training) and nurses' perceptions of patient safety culture. The instrument to assess patient safety culture was the Hospital Survey on Patient Safety Culture (HSOPC),

developed by the Agency for Healthcare Research and Quality (AHRQ) and subsequently adapted into Indonesian by Rosyada (2014) and Arini (2018). The instrument consists of 42 questions with 12 dimensions and uses a Likert scale of 1-5. The authors did validity and reliability tests resulting in a table >r value and reliability of 0.879. This research obtained certificates of ethical review from the Research Ethics Committee of the Faculty of Nursing, the University of Indonesia, with Num. SK 126 / UN2. F12. D1.2.1/2021 ETHICS, the ethics review at Dr. Soetomo Hospital with Num. 0419/LOE/301.4.2/IV/2021, and Kanjuruhan Hospital with Num. 072.1/EA. KEPK-015/35.07.208/2021. Data analysis used IBM SPSS Statistics version 22.0 to describe the mean, median, minimum, and maximum values and presentation.

RESULT

Table 1 and Table 2 indicate the demographic characteristics of respondents. In addition, Table 3 shows nurses' perceptions of patient safety culture.

Table 1. The demographic characteristics of respondents by gender, education, marital status, nurse position, levels of nursing, unit, and patient safety training (n=268)

The Demographic Characteristics of Respondents	Frequency	Percentage (%)
Sex		
Male	74	27.6
Female	194	72.4
Education		
Diploma in Nursing	141	52.6
Bachelor of Nursing	21	7.8
Bachelor of Nursing and Professional Nurse Program	106	39.6
Marital status		
Unmarried	59	22
Married	209	78
Nurse position		
Nurse practitioner	205	76.5
Team leader	63	23.5
Levels of Nursing		
Pra Clinical Nurse	22	8.2
Clinical Nurse 1	74	27.6
Clinical Nurse 2	96	35.8
Clinical Nurse 3	72	26.9
Clinical Nurse 4	4	1.5
Unit		
Inpatient room	143	53.4
Covid-19 isolation room	45	16.79
Intensive room	34	12.7
Emergency room	46	17.2
Patient safety training (in the last six months)		
Yes	152	56.7
No	116	43.3

Most respondents were female nurse practitioners with a diploma in Nursing, were married, had patient safety training, and worked in inpatient rooms (Table.1). The average age of nurses was 33 years, with a

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range of 23-57 years. In addition, the mean working time was eight years, with a range of 1-39 years (Table 2).

Table 2. The Demographic characteristics of respondents by age and working period (n=268)

The Demographic Characteristics of Respondents	Mean (Min-Max)	CI 95%
Age	33.00 (23-57)	33.98-36.08
Working time	8.00 (1-39)	9.82-12.00

Results showed that the mean patient safety culture among nurses in COVID-19 referral hospitals was 147.09 (62.55%). In addition, the lowest dimension of patient safety culture was feedback and communication (31.75%), while the highest was an organizational improvement (73.16%).

Table 3. Descriptive Statistics of patient safety culture among nurses (n=268)

Dimensions of Patient Safety Culture among Nurses	Mean±SD	Percentage (%)
Unit teamwork	15.41±3.35	71.31
Manager's expectations and actions in promoting patient safety	14.85±2.34	67.81
Organizational improvement	11.75±2.63	73.16
Management support	9.92±1.03	57.66
Nurses' perceptions of patient safety	14.23±2.18	63.93
Feedback and communication	5.81±2.11	23.41
Open communication	11.57±3.75	65.92
Frequency of event reporting	10.25±3.00	60.41
Teamwork between units	15.18±2.56	69.87
Staffing	12.66±1.68	54.12
Handover and patient transfer	15.02±3.02	68.87
Not blaming response	10.40±2.59	61.66
The overall patient safety culture	147.09±15.54	62.55

DISCUSSION

Our finding revealed that patient safety culture among nurses in COVID-19 referral hospitals was still below expectation (standard>75%). It still needs improvement in all dimensions of patient safety culture. Patient safety culture correlates negatively with patient safety incidents. Thus, negative patient safety culture potentially increases patient safety incidence, while a positive patient safety culture could prevent the incident (Kakemam et al., 2021; Yesilyaprak and Demir Korkmaz, 2021). Nurses with patient safety knowledge can create a patient safety culture in hospitals. Thus, they will become more confident in facing obstacles and difficulties associated with safety issues (Wang, Chou, and Lai, 2019). Therefore, the low patient safety culture in the hospitals of this study needs to be improved and become a priority so that patient safety incidents decrease and nurse compliance in patient safety increases.

Previous research on 150 nurses showed 66.33% of them had positive patient safety culture (Asadi et al., 2020). Meanwhile, before the Pandemic, AHRQ took data on 87,856 respondents in 172 hospitals, showing that 71% had positive patient safety culture (AHRQ, 2021). Thus, there was a potential decrease in patient safety culture before and after the COVID-19 Pandemic. It was potentially due to the lack of nursing resources during the Pandemic, schedule changes, and room changes. In addition, many staff

were self-isolating, so the nurse workload increased. Increased workload during the Pandemic led to changes in nurse roles in the ward, including patient safety (Denning et al., 2020). On the contrary, another study found an increased patient safety culture during the COVID-19 Pandemic. It was due to improved awareness of the importance of patient safety and risk management (Chen et al., 2021).

Patient safety culture is vital in creating a safe and healthy work environment. According to the Minister of Health of the Republic of Indonesia, Num.11 of 2017, hospitals must first build a culture of safety to ensure patient safety. Building a safety culture requires the organization's support, solid leadership, and managers' ability to listen to their staff's opinions. Thus, creating a culture of patient safety is fundamental for health workers in patient safety. It is an effort to establish and improve overall patient safety. Thus, the hospital runs the program with focus and sustainability in achieving that goal (Herawati, 2015). However, building a culture is not easy. The biggest challenge is maintaining a positive culture (Syam, 2017).

Hospitals should make policies to improve the patient safety culture. Patient safety culture surveys should continue to be carried out regularly without waiting for an accreditation schedule. There are 12 dimensions in patient safety culture, and all have an essential role in building an overall patient safety culture. In this study, the high scores were in unit teamwork, teamwork between units, and organizational improvement. Meanwhile, there should be an improvement in feedback and communication, management support, and staffing.

Unit teamwork and teamwork between units

Unit teamwork is the support between staff in the ward or the team at work. It is crucial, considering that the hospital nurses work together every shift. Thus, it takes the ability to work together and respect each other. Research before the COVID-19 Pandemic showed an average score of nurse teamwork within the unit was 72.35% (Danielsson et al., 2019; Tlili et al., 2021). It was lower than in the pre-pandemic study. It is probably due to differences in the policies or habits of the hospital. In addition, many changes have occurred in the nurse work environment during the Pandemic. One is fatigue due to increased workload inhibits the nurses from carrying out their roles.

In addition, teamwork between units is essential. Nurses should coordinate with other departments when providing nursing care, such as the radiology unit, to perform diagnostic examinations. However, teamwork between units in this paper still needs further improvement, with a score of 69.87%. Previous studies also found the mean score was 51.07% (Danielsson et al., 2019; Tlili et al., 2021). The roles of head nurses are crucial to enhance the teamwork between nursing staff. One is allowing members to express their opinions to build a patient safety culture within the unit. Inadequate structure within the team, low manager leadership, low awareness to help each other and performance, and ineffective communication cause a lack of teamwork among nurses (Hwang and Ahn, 2015). Distrust and disrespect

for fellow staff, failure of the manager to lead, loss of coordination, lack of knowledge and understanding of staff regarding the patient's condition, and lack of communication cause teamwork issues (O'Connor et al., 2016). Efforts to overcome those issues are increasing the role of the managers or head nurses in creating open communication and enhancing their leadership. In addition, training on improving teamwork, workshops on improving service quality, and implementing quality improvement can positively enhance cooperation (Paguio and Yu, 2020). Thus, the head nurses have an essential role as a manager within the scope of the unit. They need to create innovations and be willing to hear opinions from staff to improve unit teamwork.

Managers' expectations and actions in promoting patient safety

The expectations and actions of managers in promoting patient safety are the ability of the head nurses to improve the patient safety culture within their unit. Research conducted before the COVID-19 Pandemic in different places obtained an average score of 59.58% (Danielsson et al., 2019; Tlili et al., 2021). This paper scored higher than the previous one during the COVID-19 Pandemic. It indicates that head nurses were more often promoting safety to protect staff and patients during the Pandemic. During the Pandemic, nursing managers tend to be more caring and responsible for guiding their teams (Lee, Hong, and Park, 2020).

Nursing staff expects head nurses to praise their accomplished work, hear and consider their suggestions, and pay attention to nurse workload. In addition, head nurses should be able to anticipate patient safety incidents within the unit. During the Covid-19 Pandemic, head nurses have a higher workload. In addition, the higher dependence of nursing staff on them makes them work hard to meet staff expectations. During the Pandemic, nursing managers must ensure nurses' psychological and physical needs (White, 2021). However, lack of time, leadership, education, training, management support, and increased workload cause poor leadership in nurse managers (Hughes, 2018).

Organizational improvement

Organizational improvement is how the organization realizes the mistakes that have occurred and learn continuously to avoid errors and make positive changes. Research before the COVID-19 Pandemic showed an average score of organizational improvement was 54.28% (Danielsson et al., 2019; Tlili et al., 2021). Meanwhile, this paper showed an 18.88% higher score than the previous one during the Pandemic. The hospital has passed the new normal period from the COVID-19 Pandemic (Lum et al., 2020). Thus, the hospitals have adapted during the COVID-19 Pandemic to improve patient safety culture and prevent patient safety incidents.

Ineffective planning implementation, unrealistic plans and achievement times, organizational failures to create staff awareness, lack of staff trust in management, weak leadership, and ineffective communication can inhibit organizational improvement (Longenecker and Longenecker, 2014). The implementations of

good organizational behavior are encouraging staff towards behavior improvement, designing and implementing change programs, improving the quality of service to patients, and helping staff overcome conflicts (Robbins and Judge, 2017). During the Pandemic, the hospital became a constantly changing environment, and there is an adaptation for organizational improvement. Internal and external factors influence organizational improvement (Alonazi, 2021). Therefore, it requires a commitment from the organization to make changes, learn from mistakes, improve communication, improve the role and leadership of managers, and carry out management functions well.

Management Support

Management support for patient safety is a hospital policy and program to improve patient safety. Research before the COVID-19 Pandemic showed an average score of management support was 47.73% (Danielsson et al., 2019; Tlili et al., 2021). Meanwhile, this paper found a 9.92% higher score than the previous one during the Pandemic. During the Pandemic, management support is crucial to help staff get through the pandemic crisis. Factors contributing to the successful handling of the Pandemic in hospitals are the cooperation and support of management, the leadership of managers, and the improvement of staff trust in managers (Abdulmohsen et al., 2019). The implementation of management support during the Pandemic is adequate preparation, strengthening cooperation between professions, updated workflows according to the latest conditions, and good personal protective equipment supply (Hou et al., 2020). In addition, psychological and physical support, gathering staff opinions, and arranging nursing resources and nurse shifts are essential (Kackin et al., 2020).

Hospital management during the COVID-19 Pandemic activated crisis management. The Indonesian Commission on Accreditation of Hospitals establishes the accreditation standards for Facilities and Safety Management. In addition, hospitals develop and maintain disaster management programs to respond to natural and other disasters that can occur in the community, including endemic or pandemics. Crisis management starts with prevention, planning, reaction to the crisis, and the recovery process. Hospitals should emphasize providing adequate information, supporting team performance, and improving manager competence in crisis management (Jankelová et al., 2021).

Feedback and Communication

The score of feedback and communication in this paper indicated the lowest dimension of patient safety culture. It means that hospital management could not provide feedback and communication to nurses, especially in patient safety incidents. However, research before the COVID-19 Pandemic found an average score of 68.75% (Danielsson et al., 2019; Lee and Oh, 2020).

Lack of advice regarding improving behavior, staff respect for managers, fear of disappointing others and damaging professional relationships, physical barriers, and lack of self-confidence cause ineffective feedback and communication. Efforts to overcome the issues are performing careful planning before

giving feedback and specific goals, discussions, and feedback, self-reflection, paying attention to non-verbal instructions, and self-evaluation after giving feedback (Hardavella et al., 2017). The head nurse can provide constructive feedback to improve the hospital ward's quality (Altmiller, 2012). Constructive feedback can begin with showing empathy, caring for staff, and reflecting on feedback skills. The head nurse must make incident reports as organizational improvement, and therefore feedback should be a positive response to staff.

Open Communication

The open communication dimension in this investigation needed continuous improvement. Research before the COVID-19 Pandemic obtained an average open communication score of 55.54% (Danielsson et al., 2019; Y. mi Lee & Oh, 2020; Tlili et al., 2020). Lack of nurse readiness, unsupportive work and management environment, and suboptimal leadership of the head of the room inhibit open communication (Pattabi et al., 2018). Managers can practice nine steps in communicating with staff during a pandemic. The steps consist of increasing the frequency of communication, staying focused on the information provided, improving leadership values, being calm, maintaining a chain of command, settling down authority, engaging, caring for staff, and forming two-way communication with constructive feedback (Clark, 2020). Some recommendations to improve open communication during the COVID-19 Pandemic are by implementing crisis management, taking communication during the Pandemic, providing up-to-date information on COVID-19, preparing psychological support for staff, providing communication training and managers exemplifying behaviors that are following the culture of open communication (Saudi Patient Safety Center, 2020).

Non-Blaming Culture

The non-blaming culture for staff when making mistakes is crucial to improve patient safety. Research before the COVID-19 Pandemic found an average non-blaming culture was 55.10% (Danielsson et al., 2019; Y. mi Lee & Oh, 2020; Tlili et al., 2020). This study found that the score was 6.5% higher than the previous studies. Nurses with non-blaming responses will have high non-blaming culture (Saudi Patient Safety Center, 2020). Managers have an essential role in creating open communication, maintaining teamwork and commitment within the organization, and learning from mistakes to create non-blaming culture. Management, especially hospital management, should develop a culture of justice, openness, and learning using various media. One is the just culture algorithm, which has proven effective in making decisions and creating open, fair, and reliable communication so that staff can report without fear of being blamed (Brindley et al., 2014).

Frequency of Event Reporting

Research before the COVID-19 Pandemic found the average frequency of event reporting was 64.35% (Danielsson et al., 2019; Y. mi Lee & Oh, 2020; Tlili et al., 2020). This study found that the score was

4.25% lower than the previous studies. During the COVID-19 Pandemic, event reporting decreased (Denning et al., 2020). Staff tends to be afraid to report patient safety incident because they think it will be a boomerang for themselves in the future (Chegini et al., 2020). Management, especially hospital management, should support staff in event reporting to identify errors and communication failures (Umberfield et al., 2019). Organizational support, training, instruments for patient safety incident analysis, and the role of head nurses in leading and strengthening the staff could increase the frequency of event reporting (Anderson and Kodate, 2015).

Staffing

Research before the COVID-19 Pandemic found average staffing score was 47.24% (Danielsson et al., 2019; Y. mi Lee & Oh, 2020; Tlili et al., 2020). This study found that the score was 6.88% higher than the previous studies. Some recommendations for regulating human resources during the Pandemic include planning and implementing adequate training either online or offline. Furthermore, other suggestions were determining the ratio of nurses to patients with suspected or positive Covid-19 patients (e.g., 1:1 or 2:1 in ICU). Moreover, hospital management should increase teamwork, organize care units (covid and non-covid patients), and ensure staff safety in providing care (Saudi Patient Safety Center, 2020).

Nurses' perceptions of patient safety

Research before the COVID-19 Pandemic found the average score of nurses' perceptions of patient safety was 59.61% (Danielsson et al., 2019; Y. mi Lee & Oh, 2020; Tlili et al., 2020). This study found that the score was 4.31% higher than the previous studies. However, nurses' perception of patient safety was relatively low. It can be due to the high workload among nurses. Nurses' perceptions of patient safety in this study highlighted nurses' view of patient safety as a priority, meaning that despite the increased workload, nurses still concern with patient safety. Therefore, the role of hospital management and the head nurses in improving nurses' perception is crucial. Thus, nurses can ensure patient safety (Lotfi et al., 2018).

Handover and patient transfer

Research before the COVID-19 Pandemic found average handover and patient transfer was 61.95% (Danielsson et al., 2019; Lee and Oh, 2020). This study found that the score was 6.92% higher than the previous studies. Thus, hospital management should support the handover and patient transfer process.

The standard operating procedure of Hospital access and service continuity (here and after called ARK) 2.2 establishes processes for managing patient flows throughout the hospital, one of which is the patient transfer process (KARS, 2019). In addition, ARK 3.3 contains hospital information about patients in the transfer process. There should be transfer records between wards in the transfer regulations in the handover process to ensure the transfer of essential information. There is a handover process between the sending and receiving health workers in the patient transfer process. Therefore, SKP 2.2 regulates the

communication process in the patient handover (KARS, 2019). Patient handover is the transfer of professional and accountable responsibilities from all aspects of patient care or patient pools to other care providers (Robertson et al., 2014). Therefore, communication is crucial for patient safety, particularly in patient handover (Methangkool et al., 2019). Patient handover is essential to continuous care for patients in the transitional phase of care. In addition, patient handover between wards in the hospital is an integral dimension of patient safety. Thus, nurses should pay the same attention as other nurse duties, such as preparing medicines or wound care (Ballantyne, 2017).

CONCLUSION

The patient safety culture in the COVID-19 referral hospital still needed improvement. A good patient safety culture can increase patient safety and the quality of health services. In addition, feedback and communication had the lowest score in the dimension of patient safety culture. Meanwhile, the best score was an organizational improvement. Hospital management should optimize all dimensions of patient safety culture to ensure patient safety. Future research could explore predisposing factors of patient safety culture.

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