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Analysis of 12-Dimensions of Patient Safety Culture at PKU Muhammadiyah Bantul Hospital (Plenary Accredited)

Rahmana Febri Saputra[1], Arlina Dewi[1]*, Dyah Tri Kusuma Dewi[2], Mariska Urhmila[3]
[1] Master of Hospital Administration, Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia
[2] School of Nursing, College of Nursing, Taipei Medical University, Taipei, Taiwan
[3] PKU Muhammadiyah Bantul Hospital, Special Region of Yogyakarta, Indonesia

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***CORRESPONDENCE:**
arlinadewi@umy.ac.id

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Abstract: Hospital accreditation is a practice of systemically assessing hospital performance against accepted standards. Hospital accreditation can improve patient safety through the implementation of service standards and continuous service improvement through a patient safety culture. PKU Muhammadiyah Bantul Hospital received a score of 73.9% in 2015 when the accreditation was intermediate. This research aims to show the patient safety culture at the PKU Muhammadiyah Bantul Hospital, which has been plenarily accredited. This research is a quantitative study with a cross-sectional approach with a descriptive research design to show the value of 12 dimensions of patient safety culture at PKU Muhammadiyah Bantul Hospital, which is plenarily accredited. The research subjects were 77 nurses and midwives who worked in the non-intensive care room at PKU Muhammadiyah Bantul Hospital based on inclusion and exclusion criteria. Nine dimensions got good grades, namely the dimensions of supervision, organizational learning, teamwork within units, openness and communication, feedback about errors, response to errors, management support, teamwork across units, handoffs, and transitions. Sufficient grades were obtained in the dimensions of perception, frequency of reports and staff/employees. The patient safety culture at PKU Muhammadiyah Bantul Hospital, when it received plenary accreditation, was classified as good (average score of 76.82%).

Keywords: hospital accreditation, patient safety culture, PKU Muhammadiyah Bantul Hospital

INTRODUCTION

Hospital accreditation is a practice of systemically assessing hospital performance against accepted standards.[1] Every accredited hospital must implement standards issued by independent accreditation organizations to improve the quality of hospital health services. Hospitals that independent accreditation organizations accredit tend to have better basic performance compared to hospitals that are not accredited.[2]

Based on 2020 Komite Akreditasi Rumah Sakit (KARS) data, in achieving accreditation in Indonesia, there are 17 internationally accredited hospitals and 2,480 nationally accredited hospitals. Furthermore, as many as 28 hospitals have expired. Based on national accredited hospital data, there are 906 hospitals with complete accreditation, 334 primary accredited hospitals, 385 intermediate accredited hospitals, 209 basic accredited hospitals, and 646 primary accredited hospitals.[3]

In Brborovic's (2022) research, communication openness is often found to be low, which can hinder the reporting of adverse events and the sharing of safety concerns.[4] Poor teamwork across units can lead to safety issues and negatively impact patient safety culture. Regular meetings, such as huddles, can help healthcare workers discuss safety issues and enhance awareness of patient safety.[5] The quality of nursing documentation in hospitals carried out by the nursing team can describe patient care clearly and consider a professional approach.[6]

Patient safety culture, in fact, plays an important role in the existence of hospital accreditation, which can determine the achievement of patient safety quality predicate. As the number of hospital incident reports is increasing, it suggests that training programs may be successful in improving patient safety culture.[7] Surveys in this study also detected staff support for the accreditation process, reflecting a better patient safety culture.[7]

Ali's (2018) research revealed that the assessment of patient safety culture in Kuwait had an average value of 63.4%; this is because many things still need to be reinvested by hospitals in improving patient safety culture in Kuwait, especially incident reporting. This research also displays the results of the average benchmark scores in various other countries, such as the US (64.2%), Lebanon (61.5%), and KSA (57.4%).[8] In comparison, Wijaya's (2015) research uncovered that the patient safety culture value at PKU Muhammadiyah Bantul Hospital received a score of 73.9%. This is higher than the international benchmark, but there is still a gap in reporting patient safety incidents between the patient safety team and the real world in the field. There are more safety incident reports in the field than those submitted to the patient safety team.[9]

In this case, PKU Muhammadiyah Bantul Hospital is one of the private hospitals in the Special Region of Yogyakarta, Indonesia. From 2014 to 2018, this hospital has been accredited as intermediate. Then, it was re-accredited in 2018, getting plenary accreditation until 2026. Conversely, Umiringsih's (2016) research exhibited that in 2010, as many as 80% of nurses had received patient safety culture training, but from 2011 to 2016, they had never been evaluated, and patient safety training had never been carried out again.[10] Meanwhile, the value of patient safety culture at PKU Muhammadiyah Bantul Hospital received a sufficient grade in intermediate accreditation.[10] This is what makes it important to carry out this research at his hospital, to show the patient safety culture at the PKU Muhammaddiyah Bantul Hospital, which has been plenary accredited

MATERIALS AND METHOD

This quantitative study employed a cross-sectional approach with a descriptive research design to show the value of 12 dimensions of patient safety culture at PKU Muhammadiyah Bantul Hospital, which is plenarily accredited. The research subjects were 77 nurses and midwives who worked in the non-intensive care room at PKU Muhammadiyah Bantul Hospital based on inclusion and exclusion criteria. The sample in this research was total sampling. The inclusion criteria were willing to be a respondent and had worked >5 years. In comparison, the exclusion criteria were nurses/midwives who did not fill out the questionnaire and nurses/midwives who were on leave and were carrying out further studies.

The data source used in the research was primary data. The instrument in this study used patient safety culture with the Hospital Survey Patient Safety Culture questionnaire developed by AHRQ, and data was collected by filling out an online questionnaire using Google Forms. This research was carried out by coordinating with the head unit to share a Google form link via WhatsApp group for each unit. On the homepage of the Google form provided, there was informed consent, which had to be approved to proceed to the next question page. If the respondent chooses to disagree to take part in this research, they cannot continue to the next question page. The AHRQ instrument has 12 dimensions with 42 question items that are valid and reliable for us.[11] The 12 dimensions include supervision, organizational learning, teamwork within units, openness and communication, feedback about the error, response to errors, management support, teamwork across units, handoffs and transitions, perception, frequency of reporting, and staff/employees. The Agency for Healthcare Research and Quality (AHRQ) instrument uses a Likert scale with five alternative answers. For favorable statements, strongly disagree was given a score of 1, disagree was given a score of 2, neutral was given a score of 3, agree was given a score of 4, and strongly agree was given a score of 5. For unfavorable statements, strongly disagree was given a score of 5, disagree was given a score of 4, neutral was given a score of 3, agree was given a score of 2, and strongly agree was given a score of 1. Interpretation of the percentage value was said to be good if it reached 76 – 100%, sufficient if it reached 51 – 75% and poor if it < 50%.[9]

RESULTS

Based on the inclusion and exclusion criteria, the respondents for this study were 77 respondents who worked in the non-intensive care room at PKU Muhammadiyah Bantul Hospital. The characteristics of the respondents in this study are profession, length of time working in the hospital, length of time working as a profession, working time in a week, interaction with patients, professions other than nurses/midwives, assessment of the hospital, and the distance the respondent travels to the hospital.

Table 1. Respondent Characteristics

Respondent Characteristics	Frequencies (%)	
Profession	**Nurses**	**Midwives**
	65 (84.4%)	12 (15.6%)
Length of time working in the hospital	**6-10 years**	**11-15 years**
	27 (35%)	50 (65%)
Length of time working as a profession	**<10 years**	**≥ 10 years**
	21 (27.2%)	56 (72.7%)
Working time in a week	**<40 hours/week**	**≥40 hours/week**
	18 (23.3%)	59 (76.6%)
Interaction with patients	**Yes**	**No**
	76 (98.7%)	1 (1.2%)
Patient safety assessment	**Good**	**Sufficient**
	70 (90.9%)	7 (9.1%)

Based on Table 1, the respondents in this study were divided into two, namely nurses (84.4%) and midwives (15.6%). The number of respondents is considered representative in this study compared with the overall data on staff working in non-intensive care rooms. The length of work at PKU Muhammadiyah Bantul Hospital was divided into two, namely 6-10 years (35%) and 11-15 years (65%). Respondents in this study represented the sample that experienced changes in accreditation that occurred at the PKU Muhammadiyah Bantul Hospital, namely the change from intermediate to plenary accreditation in 2017. Respondents in this study were assessed for how long the respondent had worked in their profession (nurse/midwife). Respondents who worked ≥ 10 years were 72.7%, and respondents who worked <10 years were 27.2%. Respondents in this study had working hours <40 hours/week as much as 23.3% and working hours >40 hours/week as much as 76.6%. The regulation of working hours is regulated in Labor Law in Article 77, section 1, Act No.13/2003. Normal working hours are seven working hours in a day or 40 working hours in a week for six working days in a week, or eight working hours in a day or 40 working hours in a week for five working days in a week. In this study, 98.7% of respondents interacted with patients, and 1.2% did not interact with patients. These respondents had met the inclusion and exclusion criteria in this study. The questionnaire given to respondents had five answer choices for respondents to assess the safety of patients at PKU Muhammadiyah Bantul Hospital. The choices were divided into perfect, good, sufficient, poor, and very poor. In this study, respondents only chose good and sufficient so that the percentage of good (90.9%) and sufficient (9.1%) was obtained.

In this study, patient safety culture was assessed using the 12 dimensions of the Hospital Survey on Patient Safety Culture version 1.0 questionnaire. In its development, Hospital Survey on Patient Safety Culture (HSOPSC) currently has the latest version 2.0 questionnaire with ten dimensions. However, PKU Muhammadiyah Bantul Hospital is currently still using the HSOPSC version 1.0 questionnaire in implementing patient safety culture.

Table 2. 12 Dimension of HSOPSC Version 1.0

No.	Dimension	Percentage (%)	Grade
1.	Perception	69.42 %	Sufficient
2.	Frequency of reported	72.29 %	Sufficient
3.	Supervision	78.77 %	Good
4.	Organizational learning	81.82 %	Good
5.	Teamwork within units	83.96 %	Good
6.	Openness and communication	75.93 %	Good
7.	Feedback about error	79.48 %	Good
8.	Response to error	75.93 %	Good
9.	Staff/employees	65.13 %	Sufficient
10.	Management support	80.78 %	Good
11.	Teamwork across units	81.04 %	Good
12.	Handoffs and transitions	77.27 %	Good
	Average	76.82%	

From Table 2, this research revealed that of the 12 dimensions of patient safety culture, nine dimensions got good grades, comprising the dimensions of supervision, organizational learning, teamwork within units, openness and communication, feedback about errors, response to errors, management support, teamwork across units, handoffs, and transitions. Sufficient grades were obtained in the dimensions of perception, frequency of reports, and staff/employees. Overall, PKU Muhammadiyah Bantul Hospital received a good grade for patient safety culture when it was plenary accredited. This is shown by the 76.82% average score of 12 dimensions.

DISCUSSION

Patient safety culture in hospitals has a key role in ensuring patient safety during treatment. This must also be implemented according to standard accreditation instruments. Hospital accreditation can also achieve improvement through the implementation of a patient safety culture and can provide an overview of whether the standards that have been issued and established can be implemented well.[12]

A study conducted at a teaching hospital in Ardabil, Iran, found that the establishment of national accreditation management standards was positively correlated with patient safety culture, indicating that accreditation can also improve patient safety culture in teaching hospitals.[13] Accreditation can influence various dimensions of patient safety culture, including prioritizing safety, system errors and responsibilities, recording incidents and best practices, learning and influencing change, staff education and training, and teamwork.[14]

Research conducted by Sitohang (2019) also found that hospital accreditation had a positive impact on increasing nurses' awareness of patient safety indicators. Accreditation can also improve compliance with standard operating procedures, communication between health workers, documentation, service facilities, health education, work environment, and continuing education.[15]

Dimension of Perception

In this research, the perception dimension received a sufficient score with a percentage of 69.42%. Ali's (2018) research compared perception dimension data in Kuwait (60.5%) with the US Benchmark 66%, the Lebanese Benchmark 72.5% and the KSA Benchmark 58.20%.[8] This aligns with research conducted by Wijaya

(2015), showing sufficient value in the perception dimension.[16] Perceptions of patient safety vary between practitioners. Patient safety culture reflects the perceptions of processes, norms, and attitudes related to the culture of preventable errors that health professionals have in the delivery of care. To assess patient safety perceptions through surveys, the influence of the context of each unit and different professionals must also be considered. Evaluating perceptions of safety culture means considering a number of factors and characteristics related to the hospital environment.[17]

Dimension of Frequency of Reported

In this study, the frequency of reporting at RSU PKU Muhammadiyah Bantul received a sufficient score with a percentage of 72.29%. Ali's research (2018) compared data on the reporting frequency dimension in Kuwait (58.8%) with the US Benchmark 66%, the Lebanese Benchmark 68.2% and the KSA Benchmark 59.40%.[8] In line with research conducted by Wijaya (2015), it also received sufficient marks.[16] This dimension assesses the frequency and quality of shift reports, which is important to ensure continuity of service and prevent errors. A high value indicates that shift reporting is carried out routinely and effectively.[17] The importance of reporting incidents will be the beginning of the learning process to prevent the same incident from happening again. The intention to report IKP is influenced by organizational and individual factors, so management and the KPRS Team need to take individual and organizational approaches to improve IKP reporting. Some efforts that can be made to improve the reporting culture are by creating a culture of non-punishment in the organization and eliminating the fear of the impact of reporting by reporting anonymously and providing rewards for reporting and punishments taken without blaming or punishing individuals.[18]

Dimension of Supervision

This research received a good score with a percentage of 78.77% for the supervision dimension in assessing patient safety culture with plenary accreditation. Ali's (2018) research compared supervision dimension data in Kuwait at 77.0%, with the US Benchmark at 76%, the Lebanese Benchmark at 66.4%, and the KSA Benchmark at 60.60%.[8] In research conducted by Wijaya (2015), the supervision dimension received sufficient marks in the Intermediate accreditation.[16] Supervisors should set high expectations for patient safety and ensure that staff are empowered to raise concerns. Supervisors must encourage a culture of continuous improvement by actively seeking feedback and implementing changes based on incident reports and analysis of near misses.[10] Supervisors must model the behavior they expect from their staff, demonstrating a commitment to patient safety through their actions and decisions. Effective leadership and supervision are critical in cultivating a culture of patient safety. Leaders must prioritize patient safety and provide clear expectations and support to staff to ensure that patient safety is always a top priority. By focusing on these aspects of oversight, healthcare organizations can create a culture that prioritizes patient safety and fosters a culture of continuous improvement and accountability. This ultimately provides better outcomes for patients and a safer healthcare environment.[19]

Dimension of Organizational Learning

In this research, organizational learning received a good score with a percentage of 81.82%. Ali's (2018) research compared organizational learning dimension data in Kuwait as much as 86.1% with the US Benchmark of 73%, the Lebanese Benchmark of 78.3%, and the KSA Benchmark of 79.60%.[8] Previous research conducted by Wijaya (2015) also received a good assessment. Hence, hospitals need to learn from mistakes and look for new opportunities to improve performance. Learning is a value that all employees, including medical personnel, must apply. Electronic organizational learning must strive to correct errors and improve performance to enter the service delivery system.[20]

Dimension of Teamwork Within Units and Dimension of Teamwork Across Units

In this research, the dimensions of intra-departmental and inter-departmental cooperation received good scores. The percentage obtained in the intra-departmental collaboration dimension was 83.96%, and the inter-departmental collaboration dimension was 81.04%. Ali's research (2018) compared data on the dimensions of intra-part cooperation in Kuwait. The percentage was 89.7%, with the US Benchmark at 81%, the Lebanese Benchmark at 82.3% and the KSA Benchmark at 78.50%. Ali's research in 2018 also mentioned the percentage comparison obtained in the intra-section dimension, namely in Kuwait at 63.8%, the US benchmark at 61%, Lebanon benchmark at 56.0%, and the KSA benchmark at 61.60%.[8] This is different from research conducted by Wijaya (2015), where the dimension of cooperation between departments at PKU Muhammadiyah Bantul Hospital received a sufficient score.[16] Teamwork roles refer to the contributions and

interactions between members in achieving common goals. The role of teamwork refers to the ability and efforts of team members to work together effectively, share knowledge and skills, and support each other in achieving goals. Indicators to measure the role of teamwork in a health team include willingness to collaborate, expressing positive expectations, respecting input, providing support, and strengthening group spirit.[21]

Dimension of Openness and Communication

This research received a good score in the dimensions of openness and communication with a percentage of 75.93%. Ali's research (2018) compared data on the dimensions of openness and communication in Kuwait 47.2%, US Benchmark 62%, Lebanon Benchmark 57.3% and KSA Benchmark 42.90%.[8] The results of this research received an increased score compared to research conducted by Wijaya (2015) with a sufficient score.[16] A study analyzing the relationship between nurse communication satisfaction and patient safety culture found a significant correlation between the two. Higher levels of nurse communication satisfaction are associated with a better patient safety culture, indicating that effective communication is critical to ensuring patient safety.[22] Communication barriers and unequal division of tasks are the causes of effective team collaboration. The effectiveness of teamwork is highly dependent on communication within the team, collaboration, supervision, and division of tasks. Effective communication is one strategy for building a patient safety culture. Effective communication plays a very important role in reducing undesirable events in carrying out patient medical care.[23]

Dimension of Feedback About Error

This research received a good score on the feedback about error dimension with a percentage of 79.48%. Ali's (2018) research compared the feedback about error dimension data in Kuwait 70.6%, US Benchmark 67%, Lebanese Benchmark 68.1% and KSA Benchmark 63.30%.[8] This value shows similarities to research conducted by Wijaya (2015), namely getting a good score.[16] Error reciprocity is an important component of patient safety culture, and its positive perception will be related to other dimensions, such as teamwork and organizational learning. Strategies for improving results in this dimension can provide feedback to staff when they provide incident reporting with a focus on learning about the root of the problem, reporting training, internal reporting competitions, creating tools that are easy to understand for recording incident reports, and turning reporting into improvement efforts.[23]

Dimension of Response to Error

The error sanction dimension in this assessment received a good score with a percentage of 75.93%. Ali's (2018) research compared data on the dimensions of sanctions for errors in Kuwait 27.6%, US Benchmark 44%, Lebanese Benchmark 24.3% and KSA Benchmark 26.80%.[8] In Wijaya's research (2015), this dimension received sufficient value. Wijaya's (2015) research stated that sanctions for mistakes should be used as valuable lessons and, if necessary, followed by sanctions for repeating the same mistake. This should be avoided as a blaming culture but rather as an internal improvement effort to increase patient safety.[16] A non-punitive response to errors encourages healthcare providers to report incidents without fear, thereby reducing adverse events and improving patient safety outcomes. Implementing policies and practices that encourage a non-punitive response to errors can significantly improve patient safety culture. This includes ensuring that health service providers are not penalized for their mistakes and that reporting incidents that occur will be supported.[24]

Dimension of Staff/Employees

In this study, the staff dimension received a sufficient score with a percentage of 65.13%. Likewise, the results of the staff dimension assessment also received a sufficient score in Wijaya's (2015) research.[16] Ali's research (2018) compared staff dimension data in Kuwait 39.6%, US Benchmark 55%, Lebanese Benchmark 36.8% and KSA Benchmark 35.10%.[8] Human resources in hospitals that provide direct services must be sufficient in both quantity and quality. Aspects of individual quality are seen from educational standards and competencies possessed. Human resource competency in hospitals can be carried out by trying to meet the competency standards set for each profession. Hospitals can make efforts such as sending officers to take competency-based training to improve this dimension. This step is integrated with hospital HR planning, especially teaching hospitals and training departments. For officers who do not meet their professional competency standards, hospitals can provide facilities to meet these standards.[23]

Dimension of Management Support

The management support dimension in the assessment received a good score with a percentage of 80.78%. Ali's research (2018) compared data on the dimensions of management support in Kuwait 77.7%, US Benchmark 72%, Lebanese Benchmark 78.4% and KSA Benchmark 71.40%.[8] The culture of patient safety in hospitals is, of course, influenced by good management support in order to get good grades. This is supported by Wijaya's research (2015), which assesses that good management support is the key to realizing a culture of patient safety at PKU Muhammadiyah Bantul Hospital.[16] Management support directly or indirectly impacts the success of patient safety culture.[25] Hospital managers must be able to ensure that the actions and policies they create can support a culture of safety and encourage staff to actively participate in activities to improve the quality of services that will be provided to patients.[26]

Dimension of Handoffs and Transitions

This dimension received a good score in this study with a percentage of 77.27%. Ali's research (2018) compared data on the dimensions of transfer and replacement in Kuwait 61.9%, US Benchmark 47%, Lebanese Benchmark 49.7% and KSA Benchmark 51.50%.[8] In contrast to Wijaya AS's research (2015), the dimensions of transfer and replacement at PKU Muhammadiyah Bantul Hospital are included in the Sufficient category.[16] Two important things influence the success of patient transfer, namely the instruments used and the conditions at that time. Effective patient handover and transfer is an important component of patient safety. By implementing standardized methods, minimizing distractions, involving patients and family members, and using communication tools, health care providers can ensure continuity of care and prevent errors.[27] When changing shifts, it is very vulnerable to loss of information about patients. Patient transfer activities will be problematic if staff do not pay attention to the patient. Thus, when a transfer is made from one unit to another, it will cause difficulties in caring for patients because the information obtained is very minimal. Apart from that, busy work and large number of patients will keep officers busy, so the obligation to fill in reports/checklists is incomplete or even not carried out. This provides opportunities for errors in service delivery.[16]

The implementation of this research has been carried out optimally, but this research still has many shortcomings and limitations. The research data was collected only from nurses/midwives in non-ICU inpatient rooms**.** Data collection was carried out using an online questionnaire. There was a lack of seriousness in filling out the questionnaire, or some respondents did not understand the statements in the questionnaire, which can provide data that is not true.

CONCLUSION

The patient safety culture at PKU Muhammadiyah Bantul Hospital when it received Plenary Accreditation was classified as good (average score 76.82%). In the 12 dimensions of patient safety culture, several dimensions still could hinder the implementation of patient safety, namely the dimensions of perception, frequency of reporting, and staff/employees. These three dimensions were included in the sufficient category. For further research, it is hoped that research will be carried out using qualitative studies with in-depth interviews regarding the dimensions of patient safety culture, which are still not optimal. Interviews can also be conducted with parties involved in patient safety, implementing health officers and the hospital management team.

ETHICAL CONSIDERATIONS

The study has received approval from the ethical committee of PKU Muhammadiyah Bantul Hospital with number 029/EC.KEPK/C/06.24.

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CONFLICT OF INTEREST

The authors declare that this study did not involve any conflicts of interest.

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