



Peran Kepemimpinan Perawat Transformasional dalam Menerapkan Budaya Keselamatan Pasien

The Role of Transformational Nursing Leadership in Implementing a Patient Safety Culture

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ABSTRACT

Patient safety culture in hospitals is strongly influenced by the quality of nursing leadership, yet empirical evidence from infectious disease referral hospitals in Indonesia remains limited, particularly regarding the role of transformational head nurse leadership. This study aimed to analyze the relationship between the transformational leadership style of head nurses and the implementation of patient safety culture at Sulianti Saroso Infectious Diseases Hospital, Jakarta. This quantitative research employed a descriptive correlational design with a cross-sectional approach. Respondents were staff nurses in inpatient units selected using simple random sampling, with inclusion criteria of actively working nurses willing to participate and exclusion criteria of nurses on leave (maternity, sick, study), internship nurses, the researcher, and head nurses, resulting in 48 respondents. Data were collected using the Hospital Survey on Patient Safety Culture (HSOPS) Version 2 and a validated transformational leadership questionnaire, then analyzed using univariate and bivariate analyses with the chi-square test. Most respondents perceived the transformational leadership of head nurses as good (64.6%) and the patient safety culture as good (54.2%). There was a significant relationship between transformational leadership and patient safety culture ($p = 0.004$), with a Prevalence Odds Ratio (POR) of 7.944 (95% CI: 2.033–31.041), indicating that nurses who perceived transformational leadership as good had nearly eight times higher odds of reporting a good patient safety culture. These findings highlight the importance of strengthening transformational leadership development programs for ward managers as a strategy to improve patient safety culture and service quality in infectious disease referral hospitals.

Keywords : Patient Safety Culture, Transformational Leadership, Nursing leadership

ABSTRAK

Budaya keselamatan pasien di rumah sakit sangat dipengaruhi oleh kualitas kepemimpinan keperawatan, namun bukti empiris dari rumah sakit rujukan penyakit infeksi di Indonesia masih terbatas, khususnya terkait peran kepemimpinan transformasional kepala ruangan. Penelitian ini bertujuan menganalisis hubungan gaya kepemimpinan transformasional kepala ruangan dengan penerapan budaya keselamatan pasien di RS Penyakit Infeksi Sulianti Saroso Jakarta. Penelitian kuantitatif ini menggunakan desain deskriptif korelatif dengan pendekatan potong lintang. Responden adalah perawat pelaksana di ruang rawat inap yang dipilih dengan simple random sampling, dengan kriteria inklusi perawat yang aktif bekerja dan bersedia menjadi responden, serta kriteria eksklusi perawat yang sedang cuti (hamil, sakit, studi), perawat magang, peneliti, dan kepala ruangan. Sampel dalam penelitian ini 48 responden. Data dikumpulkan menggunakan kuesioner Hospital Survey on Patient Safety Culture (HSOPS) versi 2 dan kuesioner kepemimpinan transformasional yang telah divalidasi, kemudian dianalisis secara univariat dan bivariat dengan uji chi-square. Sebagian besar responden menilai kepemimpinan transformasional kepala ruangan dalam kategori baik (64,6%) dan budaya keselamatan pasien dalam kategori baik (54,2%). Terdapat hubungan yang signifikan antara kepemimpinan transformasional dan budaya keselamatan pasien ($p = 0,004$), dengan *Prevalence Odds Ratio* (POR) sebesar 7,944 (95% CI: 2,033–31,041), yang menunjukkan bahwa perawat yang menilai kepemimpinan transformasional baik memiliki peluang hampir delapan kali lebih besar untuk melaporkan budaya keselamatan pasien yang baik. Temuan ini menegaskan pentingnya penguatan program pengembangan kepemimpinan transformasional bagi kepala ruangan sebagai strategi untuk meningkatkan budaya keselamatan pasien dan mutu pelayanan di rumah sakit rujukan penyakit infeksi.

Kata kunci: Budaya Keselamatan Pasien, Kepemimpinan Transformasional, Kepemimpinan perawat

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INTRODUCTION

Patient safety has become a major global concern in healthcare systems, particularly in the context of increasingly complex and dynamic services. Ensuring patient safety is not only crucial to safeguarding patient welfare but also essential for maintaining professionalism in healthcare practice [1]. Since 2019, the World Health Organization (WHO) has designated *World Patient Safety Day* to emphasize that no one should experience harm while receiving healthcare. However, despite this campaign, unsafe care remains one of the top ten leading causes of death worldwide. Globally, approximately 42.7 million patients are injured or die annually due to unsafe medical practices and medical errors, with an economic impact of around USD 42 billion or nearly 1% of global health expenditure [2].

In developing countries, the burden is even greater. The Global Patient Safety Action Plan 2021–2030 estimates around 134 million patient safety incidents (PSIs) in hospitals each year, leading to 2.6 million deaths [3]. For example, in China, with more than 230 million hospitalizations annually, even a 2% incident rate would translate into 4.6 million adverse events, often accompanied by serious social consequences such as violence against medical personnel [4]. Preventable medication errors also account for approximately 10 million injuries or deaths annually [5,6].

Indonesia faces similar challenges. National data in 2019 recorded 7,465 patient safety incidents, including 171 deaths and 80 severe injuries, with the highest concentration of cases in Jakarta (37.9%) followed by Central Java and Yogyakarta [7]. These figures highlight that patient safety incidents remain a significant problem in the Indonesian healthcare system.

Efforts to improve patient safety are closely linked to the development of a strong patient safety culture within healthcare organizations. According to the Agency for Healthcare Research and Quality (AHRQ), safety culture reflects organizational values, beliefs, and norms about what is important and which behaviors are expected regarding patient safety [8]. Several factors influence this culture, including leadership, teamwork, workload, communication, and training [9,10]. Among these, leadership is particularly critical.

Several studies have demonstrated that transformational leadership makes a substantial contribution to strengthening patient safety culture across various healthcare settings. Study Hamdan et al. reported that transformational leadership among nurse managers enhances safety communication, incident reporting, and staff commitment to safe practices, which in turn reduces the risk of adverse events [1]. Huang et al. further showed that leaders who inspire, provide individualized support, and promote continuous learning are associated with fewer medical incidents and better overall quality of care [11]. Similarly, Ystaas et al. highlighted that transformational leadership improves nurses' motivation and engagement in implementing safety protocols, including adherence to procedures and near-miss reporting. These findings indicate that transformational leadership is a promising and context-relevant leadership model to be adopted in Indonesia, as it addresses complex patient safety challenges in nursing practice [12].

Despite consistent international evidence on the positive impact of transformational leadership on patient safety culture, studies in Indonesia remain limited and predominantly focus on general hospitals rather than infectious disease referral hospitals. Infectious disease hospitals face a higher risk profile for both patient safety and occupational safety, due to intense exposure to infectious agents, high workload, frequent use of high-alert medications, and complex isolation and infection-prevention procedures. This situation creates a clear research gap regarding how transformational leadership of head nurses is related to patient safety culture in high-risk environments such as Sulianti Saroso Infectious Diseases Hospital. Therefore, this study is crucial to provide context-specific empirical evidence in a national infectious disease referral hospital and to inform the development of transformational leadership programs that simultaneously support patient safety and healthcare worker safety

METHOD

This quantitative study employed a descriptive correlational design with a cross-sectional approach and was conducted at Sulianti Saroso Infectious Disease Hospital, Jakarta, from December 2024 to January 2025. The independent variable was the transformational leadership style of head nurses, and the dependent variable was patient safety culture among staff nurses. The study population consisted of all staff nurses working in inpatient units at Sulianti Saroso Infectious Diseases Hospital, totaling 92 nurses. The minimum sample size was calculated using Slovin's formula with a precision level of 10%, resulting in 48 nurses, who

were then selected using simple random sampling among eligible inpatient staff nurses. Inclusion criteria were actively working inpatient staff nurses who were willing to participate, while exclusion criteria included nurses on study assignment or any type of leave (maternity, childbirth, marriage, illness, or special leave), internship nurses, the researcher, and ward heads.

Data were collected using two primary questionnaires. Patient safety culture was measured using the Hospital Survey on Patient Safety Culture (HSOPS) Version 2, as recommended by the Ministry of Health and the national hospital accreditation commission, consisting of 32 items across key dimensions of patient safety culture and rated on a 5-point Likert scale. Transformational leadership was assessed using a validated questionnaire adapted from Rachmawati [13] and Suzana [14], comprising 13 items covering core dimensions of transformational leadership, also measured on a 5-point Likert scale; total scores for both instruments were categorized into “good” and “poor/less good” using a 75% cut-off of the maximum score [15]. Data collection was conducted after obtaining written informed consent from all respondents, and data were processed through checking, coding, and data entry prior to analysis. Univariate analysis was used to describe respondents’ characteristics and main variables, while bivariate analysis using the chi-square test was applied to examine the relationship between transformational leadership and patient safety culture, and the strength of association was presented as Prevalence Odds Ratio (POR) with a 95% confidence interval. This study complied with ethical principles and received approval from the Health Research Ethics Committee of RSPH Prof. Dr. Sulianti Saroso (No. PP.07.01/D.XXXIX.14/92/2024).

RESEARCH RESULTS

This study involved 48 respondents who met the inclusion and exclusion criteria. The characteristics of respondents are presented in Table 1. The majority of respondents were in the late adult age range (36–45 years) with 34 respondents (70.8%), most were female (89.6%), more than half had D3 Nursing education (54.2%), and the majority had a working period of ≥ 5 years (85.4%).

Tabel 1. Characteristics of Respondents (n = 48)

Characteristics of Respondents	Frequency	%
Age		
Early Adult (26-35 Years)	13	27,1
Late Adult (36-45 Years)	34	70,8
Early Elderly (46-55 Years)	1	2,1
Gender		
Male	5	10,4
Female	43	89,6
Education		
D3 Nursing	26	54,2
S1 Nursing/Ners	22	45,8
Length of Service		
< 5 year	7	14,6
≥ 5 year	41	85,4
Total	48	100

The analysis of respondents’ perceptions regarding the transformational leadership style of ward heads is shown in Table 2. In this study, transformational leadership was conceptualized using four core indicators. Inspirational motivation refers to the leader’s ability to articulate a clear and compelling vision, communicate high expectations, and motivate nurses to achieve shared goals in patient care. Idealized influence describes the extent to which the leader acts as a role model, demonstrates integrity and strong professional values, and gains trust and respect from staff. Individualized consideration reflects the leader’s attention to each nurse’s

needs and potential, shown through mentoring, support, and fair recognition of contributions. Intellectual stimulation captures the leader’s encouragement of critical thinking and innovation by inviting staff to question existing routines, propose new ideas, and participate actively in solving patient-safety problems. These four indicators were operationalized as item groups in the transformational leadership questionnaire and used as the basis for measuring the transformational leadership style of head nurses in this study. The findings indicated that most respondents (64.6%) assessed the ward heads’ leadership style as good. Meanwhile, the implementation of patient safety culture was also perceived as good by more than half of the respondents (54.2%).

Table 2. Distribution of Transformational Leadership Style and Patient Safety Culture (n = 48)

Variabel	Frequency	Percentage
Transformational Leadership		
Good	31	64,6
Less Good	17	35,4
Implementation of Patient Safety Culture		
Good (≥75%)	26	54,2
Less good (<75%)	22	45,8

Further analysis was performed to examine the relationship between transformational leadership style and patient safety culture using the chi-square test, as presented in Table 3. Of the 31 respondents who rated the ward heads’ leadership style as good, 22 respondents (71%) also reported good implementation of patient safety culture. Conversely, among 17 respondents who rated leadership as poor, 13 respondents (76.5%) also reported poor implementation of patient safety culture. The chi-square test results showed a p-value of 0.004 (<0.05), indicating a statistically significant relationship between transformational leadership and patient safety culture. The Prevalence Odds Ratio (POR) was 7.944 (95% CI: 2.033–31.041), suggesting that respondents who perceived transformational leadership as good had 7.9 times higher odds of reporting a good patient safety culture compared to those who rated leadership as poor.

Table 3. Relationship Between Transformational Leadership Style and Patient Safety Culture (n = 48)

Transformational Leadership	Implementation of Patient Safety Culture				Total		POR (95%CI)	P Value
	Good		Less Good		n	%		
	n	%	n	%				
Good	22	71.0	9	29	31	100	7.944 (2,033-31,041)	0,004
Less Good	4	23,4	13	76,5	17	100		
Total	26	54,2	22	45,8	48	100		

DISCUSSION

The results of this study are in line with previous national and international evidence. At the national level, Setiowati reported that 56% of nurses at PMI Bogor Hospital perceived their managers’ transformational leadership as good [16], while Aeni et al. found that 57.4% of nurses at a district hospital in Indramayu reported a good patient safety culture, both indicating a positive link between leadership and safety practices in Indonesian hospitals [17]. Internationally, a systematic review by Ystaas and Nikitara showed that transformational leadership supports better nurse engagement, collaboration, and adherence to safety protocols, which in turn improves patient outcomes and safety indicators [12]. More recently, Hamdan et al. demonstrated that transformational leadership is positively associated with patient safety culture and nursing safety practices, with safety culture acting as a mediator between leadership and safety behaviour [1]. These convergent findings indicate that transformational leadership is consistently related to stronger patient safety

culture across different countries and healthcare systems, and the present study adds context-specific evidence from an infectious disease referral hospital in Indonesia. The magnitude of association found in this study (POR 7.944) suggests a relatively strong relationship between nurses' perceptions of transformational leadership and patient safety culture, which is comparable to or even higher than effect sizes reported in other observational studies examining leadership and safety outcomes in hospital settings [1,18].

In addition to the overall categories of "good" and "poor" transformational leadership, the item-level patterns in this study provide further insight into specific leadership behaviours that may support or hinder patient safety culture. Descriptively, items related to inspirational motivation and idealized influence such as communicating a clear safety vision and acting as a role model in following safety procedures tended to receive higher positive responses from nurses. By contrast, items reflecting intellectual stimulation (e.g., encouraging staff to question unsafe routines and propose improvements) and individualized consideration (e.g., providing regular feedback and coaching related to safety incidents) showed relatively lower positive responses. These findings suggest that, in this setting, transformational leadership is perceived as relatively strong in inspiring and modelling safety, but there is still room for improvement in actively involving nurses in problem-solving and in providing individualized support for safety-related learning. Based on these patterns, hospital leaders could prioritize leadership development interventions that strengthen head nurses' skills in facilitating reflective discussions after incidents, promoting critical thinking about safety risks, and offering individualized feedback and mentoring related to patient safety. Training modules and coaching programs that focus on intellectual stimulation and individualized consideration may help translate transformational leadership more directly into continuous safety improvement at the unit level [1,12].

Nevertheless, this study has several limitations. The cross-sectional design does not allow causal inferences, and the use of self-reported questionnaires may introduce social desirability and recall bias. To minimize these risks, anonymous self-administered questionnaires were used, with clear instructions that responses would not affect performance appraisal, and data collection was conducted by trained research assistants who were not part of the nursing management team. Furthermore, both the transformational leadership and patient safety culture instruments had been previously validated in the Indonesian context, and internal consistency in this study was acceptable, as indicated by Cronbach's alpha coefficients above the recommended threshold. Despite these precautions, residual bias cannot be fully excluded, and future studies using longitudinal or mixed-methods designs, combined with objective safety indicators (e.g., incident reports, fall rates, medication error rates), are needed to clarify the causal pathways between transformational leadership and patient safety culture.

CONCLUSION

This study concludes that transformational leadership of head nurses plays a crucial role in strengthening patient safety culture specifically within infectious disease referral hospitals. Leadership that inspires trust and provides individualized support encourages nurses to actively implement safety principles amid high-risk infection control demands. These findings underscore the strategic importance of developing transformational leadership competencies among ward heads to enhance service quality and patient safety in such specialized settings.

Based on these results, ward heads in infectious disease hospitals should prioritize role modeling for isolation procedures and infection risk management, actively leading safety huddles and incident reviews. To address lower-performing dimensions of intellectual stimulation and individualized consideration, head nurses are recommended to implement structured case review forums that challenge routine practices and encourage innovative infection prevention ideas, alongside personalized coaching-mentoring sessions with recognition for nurses demonstrating safe behaviors during high-risk procedures. Hospital management should design targeted leadership programs emphasizing these dimensions, while future researchers are advised to employ

larger samples across multiple referral hospitals alongside longitudinal designs and objective safety indicators to improve statistical precision, narrow confidence intervals, and better establish causal relationships.

CONFLICT OF INTEREST

All authors declare that they have no conflicts of interest, either financial or non-financial, related to this research.

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