



Effects of Clinical Leadership and Intrinsic Motivation on Patient Safety Culture Through Effective Communication in the Outpatient Unit of Mandaya Puri Hospital

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Abstract: Patient safety culture is an important component of hospital quality and safe healthcare delivery. This study aimed to determine the effects of clinical leadership and intrinsic motivation on patient safety culture through effective communication as a mediating variable among healthcare workers in the outpatient unit of Mandaya Puri Hospital. This was a quantitative explanatory study with a cross-sectional design involving 110 doctors and nurses selected using total sampling. Data were collected using a four-point Likert questionnaire and analyzed using partial least squares structural equation modeling (PLS-SEM) with SmartPLS. Descriptive analysis used the Three-Box Method. All variables were categorized as high: clinical leadership 85.94, intrinsic motivation 87.80, effective communication 84.63, and patient safety culture 86.21. The structural model explained 97.4% of the variance in patient safety culture ($R^2=0.974$) and 94.6% of the variance in effective communication ($R^2=0.946$). Clinical leadership significantly affected effective communication ($\beta=0.912$; $p<0.001$) and patient safety culture ($\beta=0.282$; $p=0.026$). Effective communication significantly affected patient safety culture ($\beta=0.421$; $p<0.001$), while intrinsic motivation significantly affected patient safety culture ($\beta=0.296$; $p=0.001$) but not effective communication ($\beta=0.062$; $p=0.588$). Effective communication partially mediated the effect of clinical leadership on patient safety culture ($\beta=0.384$; VAF=57.66%), but did not mediate the effect of intrinsic motivation ($\beta=0.026$; $p=0.625$; VAF=8.07%). These findings indicate that strengthening clinical leadership, intrinsic motivation, and effective communication is important for improving patient safety culture.

Keywords: *Clinical leadership; Intrinsic motivation; Effective communication; Patient safety culture; PLS-SEM*

Indonesian Abstract: Budaya keselamatan pasien merupakan komponen penting dalam mutu dan keselamatan pelayanan rumah sakit. Penelitian ini bertujuan menganalisis pengaruh kepemimpinan klinis dan motivasi intrinsik terhadap budaya keselamatan pasien melalui

komunikasi efektif sebagai variabel mediasi pada tenaga kesehatan Unit Rawat Jalan RS Mandaya Puri. Penelitian ini merupakan penelitian kuantitatif explanatory dengan desain cross-sectional yang melibatkan 110 dokter dan perawat menggunakan total sampling. Data dikumpulkan menggunakan kuesioner skala Likert empat poin dan dianalisis dengan partial least squares structural equation modeling (PLS-SEM) menggunakan SmartPLS. Analisis deskriptif menggunakan Three-Box Method. Seluruh variabel berada pada kategori tinggi: kepemimpinan klinis 85,94; motivasi intrinsik 87,80; komunikasi efektif 84,63; dan budaya keselamatan pasien 86,21. Model struktural menjelaskan 97,4% variasi budaya keselamatan pasien ($R^2=0,974$) dan 94,6% variasi komunikasi efektif ($R^2=0,946$). Kepemimpinan klinis berpengaruh signifikan terhadap komunikasi efektif ($\beta=0,912$; $p<0,001$) dan budaya keselamatan pasien ($\beta=0,282$; $p=0,026$). Komunikasi efektif berpengaruh signifikan terhadap budaya keselamatan pasien ($\beta=0,421$; $p<0,001$), sedangkan motivasi intrinsik berpengaruh signifikan terhadap budaya keselamatan pasien ($\beta=0,296$; $p=0,001$), tetapi tidak terhadap komunikasi efektif ($\beta=0,062$; $p=0,588$). Komunikasi efektif memediasi secara parsial pengaruh kepemimpinan klinis terhadap budaya keselamatan pasien ($\beta=0,384$; $VAF=57,66\%$), tetapi tidak memediasi pengaruh motivasi intrinsik ($\beta=0,026$; $p=0,625$; $VAF=8,07\%$).

Keywords: *Clinical leadership; Intrinsic motivation; Effective communication; Patient safety culture; PLS-SEM*

INTRODUCTION

Patient safety culture is an important component of hospital quality because it supports incident prevention, organizational learning, and safer care.

Outpatient services require rapid information exchange and multidisciplinary coordination. At Mandaya Puri Hospital, several areas still required strengthening, particularly non-punitive response to error, reporting, learning, leadership feedback, and communication clarity.

Patient safety culture is shaped by leadership, individual factors, and communication. Clinical leadership provides direction and empowerment; intrinsic motivation supports meaningful engagement; and effective communication supports teamwork and safe care.

Previous studies have demonstrated relationships between leadership, communication, motivation, and patient safety culture (Kuraesin et al., 2023; Alif et al., 2024; Janwar et al., 2024). However, evidence concerning effective communication as a mediator, particularly in the relationship between intrinsic motivation and patient safety culture, remains limited. Therefore, this study examined an integrated model of clinical leadership, intrinsic motivation, effective communication, and patient safety culture among healthcare workers in an outpatient setting.

This study aimed to determine: (1) the effect of clinical leadership on effective communication; (2) the effect of intrinsic motivation on effective communication; (3) the effect of effective communication on patient safety culture; (4) the effect of clinical leadership on patient safety culture; (5) the effect of intrinsic motivation on patient safety culture; and (6) the mediating role of effective communication in the effects of clinical leadership and intrinsic motivation on patient safety culture.

METHODS

This quantitative explanatory study used a cross-sectional design and was conducted in the outpatient unit of Mandaya Puri Hospital. The population consisted of all doctors and nurses working in the unit, totaling 110 people. Because the entire population was accessible, total sampling was applied and all 110 healthcare workers participated. Data collection was conducted from 19 to 30 June 2026, with a 100% questionnaire response rate.

The study variables were clinical leadership (X1), intrinsic motivation (X2), effective communication (Z) as the mediating variable, and patient safety culture (Y) as the dependent variable. Clinical leadership was assessed through transformational leadership, clinical competence and credibility, staff empowerment, and communication and feedback. Intrinsic motivation was assessed through autonomy, mastery, purpose, and interest. Effective communication included communication openness, information clarity, information adequacy, and interpersonal communication. Patient safety culture included knowledge and skills, attitude toward safety, reinforcement system, non-punitive response, teamwork and collaboration, management support, organizational learning, and incident reporting system.

The questionnaire used a four-point Likert scale (1=strongly disagree to 4=strongly agree). Patient safety culture items were based on HSOPSC, while effective communication followed TeamSTEPPS principles. Clinical leadership and intrinsic motivation were operationalized according to the theoretical framework used in the thesis. Data were analyzed using Microsoft Excel and SmartPLS. Descriptive analysis used the Three-Box Method. Measurement model evaluation included outer loading, AVE, HTMT, and construct reliability. Structural model evaluation included R^2 , Q^2 , direct effects, indirect effects, and VAF. Path significance was assessed using bootstrapping, with $p < 0.05$ considered statistically significant.

RESULTS AND DISCUSSION

RESULTS

Demographic Characteristics

The study involved 110 respondents. Most respondents were women (67.27%) and aged 26–35 years (49.1%). Nurses accounted for 72.73% and doctors for 27.27%. The most common education level was diploma (41.82%), followed by bachelor's degree (30.91%). More than half of respondents had worked for 6 months to less than 2 years (51.82%).

Table 1. Respondent Characteristics

Characteristic	n	%
Gender – Women	74	67.27
Gender – Men	36	32.73
Age – 26–35 years	54	49.10
Age – 36–45 years	32	29.10
Nurses	80	72.73
Doctors	30	27.27
Diploma (D3)	46	41.82
Bachelor (S1)	34	30.91
6 months–<2 years	57	51.82
2–5 years	36	32.73
>5 years	17	15.45

Table 1 shows that most respondents were women (67.27%), aged 26–35 years (49.10%), and nurses (72.73%). The largest education group was diploma-level education (41.82%), while 51.82% had worked for 6 months to less than 2 years. These characteristics describe the composition of healthcare workers included in the study.

Three-Box Analysis

The Three-Box Method showed that all four variables were categorized as high. Clinical leadership had an index of 85.94, intrinsic motivation 87.80, effective communication 84.63, and patient safety culture 86.21. The lowest dimensions were staff empowerment, interest, interpersonal communication, and organizational learning, respectively.

Table 2. Three-Box Analysis

Variable	Index	Highest dimension	Lowest dimension
Clinical leadership	85.94	Transformational leadership: 93.25	Staff empowerment: 79.19 (medium)
Intrinsic motivation	87.80	Purpose: 90.75	Interest: 83.88
Effective communication	84.63	Communication openness: 92.38	Interpersonal communication: 77.56 (medium)
Patient safety culture	86.21	Knowledge and skills: 94.06	Organizational learning: 76.44 (medium)

Table 2 shows that all four study variables were in the high category. Clinical leadership had an index of 85.94, intrinsic motivation 87.80, effective communication 84.63, and patient safety culture 86.21. The lowest dimensions were staff empowerment, interest, interpersonal communication, and organizational learning, indicating areas that still require attention.

Measurement Model

All indicators met convergent validity requirements with outer loadings above 0.70. AVE values ranged from 0.657 to 0.699 and construct reliability was high. However, HTMT values between constructs exceeded 0.90, indicating that discriminant validity was not fully established.

Table 3. Reliability and AVE

Variable	Cronbach's α	Composite reliability	AVE
Patient safety culture	0.985	0.986	0.682
Clinical leadership	0.971	0.974	0.699
Effective communication	0.965	0.968	0.657
Intrinsic motivation	0.969	0.972	0.683

Table 3 shows that all constructs met the recommended criteria for convergent validity and reliability. AVE values ranged from 0.657 to 0.699, while Cronbach's alpha and composite reliability were above 0.90 for all constructs. Thus, the indicators demonstrated adequate convergent validity and internal consistency.

Table 4. HTMT Results

HTMT pair	HTMT
Patient safety culture ↔ Clinical leadership	0.979
Patient safety culture ↔ Effective communication	0.976
Patient safety culture ↔ Intrinsic motivation	0.970
Clinical leadership ↔ Effective communication	0.972

Clinical leadership ↔ Intrinsic motivation	0.974
Effective communication ↔ Intrinsic motivation	0.950

Table 4 shows that all HTMT values between constructs exceeded 0.90, ranging from 0.950 to 0.979. Therefore, although convergent validity and reliability were adequate, discriminant validity was not fully established and the structural findings should be interpreted cautiously.

Structural Model and Hypothesis Testing

The R^2 value for patient safety culture was 0.974, indicating that clinical leadership, intrinsic motivation, and effective communication explained 97.4% of its variance. The R^2 value for effective communication was 0.946. Q^2 values of 0.615 for patient safety culture and 0.574 for effective communication were greater than zero, indicating predictive relevance.

Table 5. Significance of Direct Relationships

Independent variable	Dependent variable	β	t	p	Decision
Clinical leadership	Effective communication	0.912	8.103	<0.001	Significant

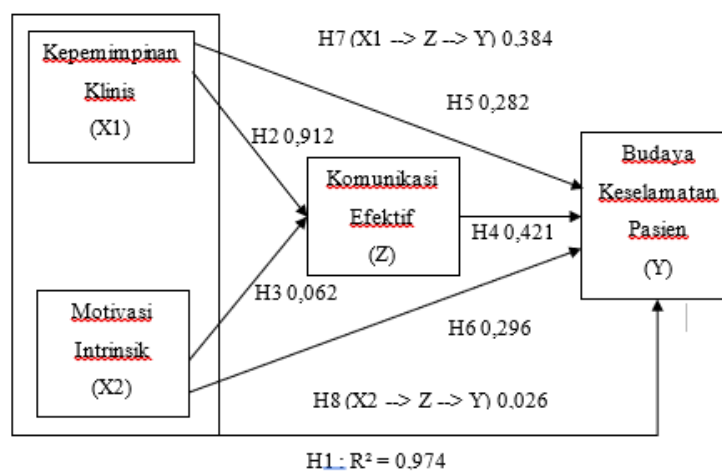
Intrinsic motivation	Effective communication	0.062	0.542	0.588	Not significant
Effective communication	Patient safety culture	0.421	4.063	<0.001	Significant
Clinical leadership	Patient safety culture	0.282	2.227	0.026	Significant
Intrinsic motivation	Patient safety culture	0.296	3.422	0.001	Significant

Table 5 shows that clinical leadership significantly affected effective communication ($\beta=0.912$; $p<0.001$) and patient safety culture ($\beta=0.282$; $p=0.026$). Effective communication also significantly affected patient safety culture ($\beta=0.421$; $p<0.001$), while intrinsic motivation significantly affected patient safety culture ($\beta=0.296$; $p=0.001$). In contrast, intrinsic motivation did not significantly affect effective communication ($\beta=0.062$; $p=0.588$). The structural model explained 97.4% of the variance in patient safety culture ($R^2=0.974$) and 94.6% of the variance in effective communication ($R^2=0.946$). Q^2 values of 0.615 and 0.574 were greater than zero, indicating predictive relevance.

Table 6. Significance of Indirect Relationships

Independent variable	Mediator	Dependent variable	β indirect	t	p	VAF
Clinical leadership	Effective communication	Patient safety culture	0.384	4.380	<0.001	57.66%
Intrinsic motivation	Effective communication	Patient safety culture	0.026	0.489	0.625	8.07%

Table 6 shows that effective communication significantly mediated the effect of clinical leadership on patient safety culture ($\beta=0.384$; $p<0.001$), with a VAF of 57.66%, indicating partial mediation. In contrast, effective communication did not mediate the effect of intrinsic motivation on patient safety culture ($\beta=0.026$; $p=0.625$), with a VAF of 8.07%.


Figure 1. Full-model path analysis

DISCUSSION

Overall, the findings indicate that communication is an important mechanism through which clinical leadership contributes to patient safety culture. The lower scores for staff empowerment, interpersonal communication, and organizational learning also indicate practical areas for improvement. These findings support the need to strengthen leadership involvement, communication processes, and continuous organizational learning in patient safety programs.

However, intrinsic motivation did not significantly affect effective communication ($\beta=0.062$; $p=0.588$). This suggests that individual motivation alone may not be sufficient to produce effective team communication because communication also depends on interpersonal skills, coordination, and organizational support. The mediation results strengthen this interpretation: effective communication partially mediated clinical leadership (VAF=57.66%) but did not mediate intrinsic motivation (VAF=8.07%).

Clinical leadership and intrinsic motivation also had significant direct effects on patient safety culture ($\beta=0.282$; $p=0.026$ and $\beta=0.296$; $p=0.001$). These findings indicate that leadership behavior and internal work motivation can directly support safety-oriented behavior. The result for intrinsic motivation is consistent with Self-Determination Theory, in which meaningful and autonomous engagement can encourage responsible work behavior. The significant effect of effective communication on patient safety culture ($\beta=0.421$; $p<0.001$) indicates that open and timely information exchange is important for coordinating care and

preventing safety problems. This finding is consistent with previous studies reporting that effective communication is an important component of patient safety culture (Irwanti, 2022; Kuraesin et al., 2023; Alif et al., 2024).

Clinical leadership showed the strongest relationship with effective communication ($\beta=0.912$; $p<0.001$). This finding indicates that leadership direction, role modeling, supervision, and feedback can strengthen communication among healthcare workers. The result is consistent with the Clinical Leadership Framework, which emphasizes influence, competence, and empowerment in supporting safe and effective practice

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Clinical leadership, intrinsic motivation, and effective communication are important components of patient safety culture among healthcare workers in the outpatient unit of Mandaya Puri Hospital. The structural model explained 97.4% of the variance in patient safety culture and 94.6% of the variance in effective communication. Clinical leadership significantly affected effective communication and patient safety culture. Effective communication and intrinsic motivation significantly affected patient safety culture, while intrinsic motivation did not significantly affect effective communication. Effective communication partially mediated the effect of clinical leadership on patient safety culture but did not mediate the effect of intrinsic motivation. Managerial priorities include strengthening staff empowerment, interpersonal communication, and organizational learning.

Limitations

This study has two limitations. First, the study used a quantitative approach with questionnaires, which limited the ability to explore in greater depth the experiences, opinions, and reasons of healthcare workers regarding Clinical Leadership, Intrinsic Motivation, Effective Communication, and Patient Safety Culture, as the study was conducted according to the quantitative design and time constraints. Second, the study was limited to the Outpatient Unit in accordance with the research scope and permission obtained; therefore, other service units were not included, which may have provided a more comprehensive perspective.

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