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Research Article

Clinical Leadership, Effective Communication, and Teamwork Effectiveness: Mediating Role of Interprofessional Collaboration

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Abstract: Effective communication is essential for teamwork effectiveness in healthcare, particularly in inpatient units where patient care requires coordination among multiple professionals. Internal data from Hospital X showed that more than 50% of medical incidents in the last two years were related to miscommunication among healthcare workers. In addition, the 2024 employee satisfaction survey reported that workplace communication satisfaction was only 62%, below the hospital target of 75%. This study aimed to examine the influence of effective communication on teamwork effectiveness with interprofessional collaboration as an intervening variable at Hospital X.This study used a quantitative cross-sectional design involving 226 healthcare workers, including doctors, nurses, and medical support staff. Data were analyzed using the Three-Box Method and PLS-SEM. The findings revealed that effective communication significantly influenced teamwork effectiveness both directly and indirectly through interprofessional collaboration. Interprofessional collaboration also acted as a significant mediating variable between communication and teamwork effectiveness. These results indicate that communication is a key foundation for strengthening collaboration and improving teamwork in hospitals. Therefore, hospitals should enhance communication training and interprofessional collaboration programs to improve healthcare quality and patient safety.

Keywords: Clinical Leadership; Effective Communication; Interprofessional Collaboration; PCC; Teamwork.

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1. Introduction

X Hospital is one of the referral hospitals in Jakarta and functions not only as a healthcare provider but also as a center for medical education and research. Patient satisfaction survey data in 2025 showed fluctuating levels of satisfaction, decreasing from 85.2% in January to 84.4% in February before increasing again to 85.3% in March. These findings indicate that maintaining consistent healthcare quality remains a challenge in inpatient services. In healthcare settings, patient satisfaction is closely related to teamwork, communication quality, and coordination among healthcare professionals. Effective collaboration enables healthcare workers to monitor patient conditions, exchange information, and make clinical decisions more accurately. However, integrated patient progress notes are still not consistently reviewed by all healthcare professionals, resulting in repeated instructions and unsynchronized interventions. This condition demonstrates the urgent need to strengthen communication effectiveness and interprofessional collaboration in hospital inpatient units.

Globally, ineffective communication has been identified as one of the major causes of medical errors and decreased healthcare quality. Research in the United States reported that nearly 70% of medical errors were associated with communication failures among healthcare teams. In Europe, the European Health Management Association (EHMA) highlighted that poor communication effectiveness could reduce healthcare team performance by up to 30%, directly affecting patient outcomes and safety. These challenges are becoming increasingly

complex due to heavy workloads, high patient demands, and rapid technological changes in healthcare systems. Effective communication therefore plays a critical role in ensuring patient safety, reducing clinical errors, and improving service quality. Healthcare organizations are required to develop collaborative cultures supported by effective leadership and open communication practices among professionals.

In inpatient units, teamwork and leadership practices among nurses and healthcare professionals vary considerably. Some nurses work collaboratively with shared goals, while others tend to perform tasks individually, influencing overall teamwork effectiveness. Senior nurses are often perceived as informal leaders who bridge communication between nursing units and formal hospital management. This leadership role contributes to better coordination, situational awareness, and continuity of patient care. Previous research has emphasized that leadership significantly affects collaboration within nursing teams. In addition, transformational leadership styles have been found to improve interprofessional collaboration by approximately 40% compared with transactional leadership approaches.These findings indicate that leadership is an essential factor influencing communication quality and teamwork effectiveness in healthcare organizations.

In Southeast Asia, countries such as Indonesia, Thailand, and the Philippines face similar challenges related to communication and leadership in healthcare institutions. Previous research has emphasized that leadership significantly affects collaboration within nursing teams. In addition, transformational leadership styles have been found to improve interprofessional collaboration by approximately 40% compared with transactional leadership approaches**.**

Previous studies have explored the relationships among leadership, communication effectiveness, and teamwork performance in healthcare settings. Bass & Avolio (1996) developed the Multifactor Leadership Questionnaire (MLQ) to assess leadership styles associated with organizational effectiveness, including in healthcare organizations. Gittell et al. (2013) further demonstrated that relationship-oriented leadership improved healthcare coordination by approximately 35%, Effective communication plays an important role in reducing medical errors and enhancing patient safety. In addition, transformational leadership and communication quality have been shown to have positive relationships with healthcare team performance**.**Nevertheless, most previous research has examined these variables separately and has rarely integrated interprofessional collaboration as an intervening factor affecting teamwork effectiveness.

This study seeks to address these research gaps by examining the influence of effective communication on teamwork effectiveness with interprofessional collaboration as an intervening variable in inpatient units at RS X. The hospital was selected because of its role as a referral hospital with a high patient volume and complex healthcare team dynamics. In addition, the hospital is currently implementing leadership and organizational development initiatives, making it an appropriate setting for evaluating communication and collaboration practices. This research is expected to contribute both theoretically and practically by providing evidence regarding the integration of communication effectiveness, interprofessional collaboration, and teamwork performance in Indonesian hospital settings. The findings may also support hospital management in designing strategies to improve communication systems, strengthen collaborative culture, and enhance the quality of patient-centered healthcare services.

2. Literature Review

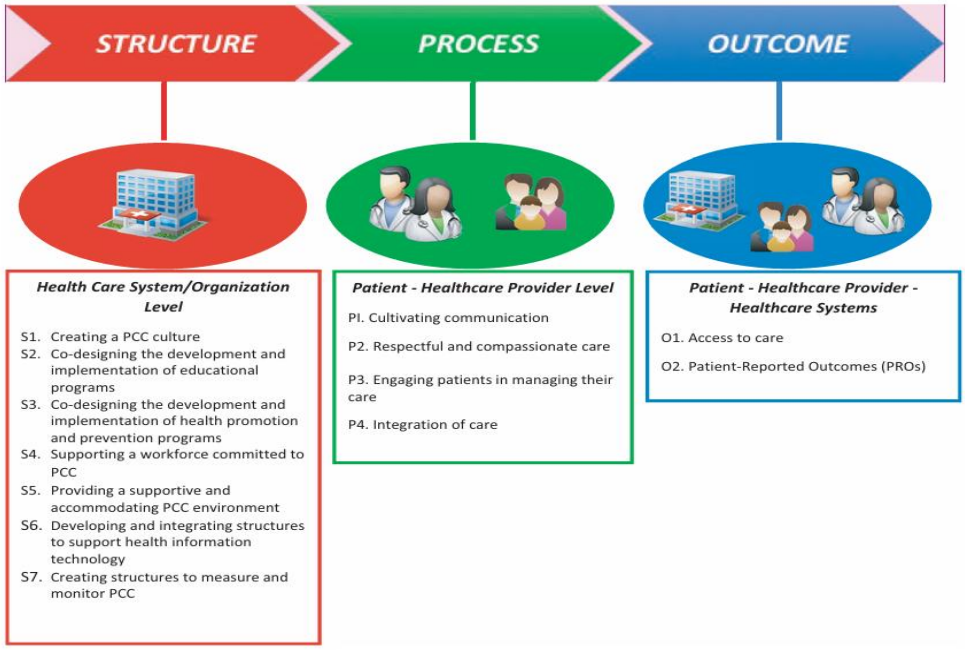


Figure 1. Framework Person-centered Care (Santana et al., 2018)

Person-Centered Care (PCC)Theory

Patient-Centered Care (PCC) is a healthcare approach that emphasizes understanding patients as unique individuals and involving them actively in healthcare processes. Initially introduced by Edith Balint in 1969, the concept has evolved into several related approaches, including patient- and family-centered care, relationship-centered care, and personalized care. Different healthcare systems apply PCC differently, but all emphasize improving patient experiences, healthcare quality, and service efficiency. PCC also extends beyond patients to include families, caregivers, preventive services, and health promotion activities. The World Health Organization recognizes PCC as a core component of quality healthcare and encourages healthcare providers to collaborate with patients in designing and delivering personalized care (Santana et al., 2018).

The structural dimension of PCC highlights the importance of organizational culture, healthcare policies, and institutional support in promoting patient-centered practices. Governments and healthcare organizations are responsible for creating policies, systems, and strategies that support PCC implementation. Effective PCC requires shared values among patients, healthcare providers, and organizations, including respect for patient dignity, equality, diversity, and non-discriminatory care. Patients should also receive adequate information to participate actively in healthcare decision-making. Furthermore, standardizing PCC terminology and encouraging co-design approaches between patients and healthcare professionals are considered essential for strengthening collaborative healthcare relationships and improving healthcare quality (Santana et al., 2018).

The process component of PCC focuses on communication and interactions between healthcare providers and patients. Effective communication enables patients to become active participants in their own care and contributes to better satisfaction, understanding, treatment adherence, and clinical outcomes. Important communication practices include active listening, information sharing, discussing treatment plans, and encouraging patient participation through open-ended dialogue. Respectful and compassionate care also plays a crucial role in PCC by recognizing patients' emotional, cultural, spiritual, and psychological needs. Empathetic relationships between healthcare providers and patients have been shown to improve trust, healing processes, and overall healthcare experiences (Santana et al., 2018).

The outcomes of PCC are reflected in improved healthcare access, better patient outcomes, reduced healthcare utilization, and lower long-term healthcare costs. Patient-centered healthcare systems aim to provide timely, affordable, and appropriate care while minimizing barriers related to financial limitations, waiting times, and service accessibility. Improved access to healthcare may reduce hospitalizations, emergency department visits,

morbidity, and mortality rates. Although implementing PCC may require significant initial investment, it can generate long-term benefits by improving healthcare efficiency, supporting informed patient decision-making, and ensuring that healthcare services align with patient values and priorities. These outcomes demonstrate that PCC contributes not only to patient satisfaction but also to the sustainability and effectiveness of healthcare systems (Santana et al., 2018).

Teamwork Theory

Teamwork in healthcare is defined as coordinated activities among healthcare professionals to achieve common patient care goals through effective communication, task clarity, and collaboration. In healthcare settings, teamwork often involves individuals from different professions, work schedules, and organizational hierarchies who may not formally belong to the same team but still depend on one another to provide safe and effective care. Challenges in healthcare teamwork include differences in professional backgrounds, shift work, high staff turnover, and hierarchical structures that may limit participation and communication among team members. In addition, patients and families are increasingly recognized as important contributors to healthcare teamwork because of their role in supporting the continuity and quality of care.

Effective teamwork in healthcare is reflected through several important dimensions. According to the TeamSTEPPS Teamwork Attitudes Questionnaire (T-TAQ), teamwork includes team structure, leadership, situation monitoring, mutual support, and communication. Team structure emphasizes clear roles, interprofessional coordination, and collaborative rounds involving doctors, nurses, pharmacists, and other healthcare professionals to improve patient outcomes and reduce medical errors (Rosen et al., 2018). Leadership focuses on motivating, coordinating, and creating psychological safety within teams so members feel comfortable expressing concerns and ideas. Situation monitoring refers to team awareness of patient conditions, environmental changes, and potential risks to prevent adverse events and improve clinical decision-making.

Mutual support and communication are also critical components of successful teamwork in healthcare organizations. Mutual support involves respect, trust, active participation, and willingness among team members to help one another through listening, questioning, sharing, and collaborative problem-solving. Psychological safety is essential in encouraging healthcare workers to communicate openly and contribute effectively within the team. Communication itself must be clear, concise, structured, and focused on creating shared understanding among healthcare professionals. Structured communication tools and closed-loop communication are commonly used to reduce misunderstandings and improve coordination during patient care processes (Weller et al., 2014).

Healthcare systems consist of several interconnected team types, including core teams, coordination teams, contingency teams, ancillary service teams, and support or administrative teams. These teams work together to ensure continuity, safety, and efficiency in healthcare delivery. Effective teamwork provides significant benefits for healthcare organizations, healthcare professionals, and patients. Organizational benefits include reduced hospitalization costs and improved service accessibility. Team benefits involve better coordination and communication, while healthcare workers experience increased job satisfaction and role clarity. For patients, effective teamwork contributes to improved healthcare quality, timely treatment, higher satisfaction, better health outcomes, and reduced medical errors (Babiker et al., 2014).

Clinical Leadership Theory

Clinical leadership refers to the ability of healthcare professionals to integrate clinical expertise, managerial skills, and leadership competencies to improve healthcare quality and patient outcomes. Clinical leaders play an essential role in prioritizing patient-centered care, promoting evidence-based practice, and driving organizational change to enhance service effectiveness and patient safety. Effective clinical leadership encourages innovation, supports professional collaboration, and ensures the delivery of high-quality healthcare services. In nursing practice, clinical leadership is also associated with motivating healthcare teams, strengthening accountability, and creating a positive work environment that supports continuous improvement in patient care.

Clinical leadership differs from non-clinical leadership in its primary focus and responsibilities. Clinical leadership emphasizes direct involvement in patient care, clinical decision-making, and improving healthcare quality through professional expertise and collaboration. Clinical leaders influence healthcare teams to maintain high standards of patient safety and clinical performance. In contrast, non-clinical leadership focuses more on

administrative management, organizational strategy, resource allocation, and long-term institutional goals. While non-clinical leaders manage operational systems and organizational policies, clinical leaders are more directly involved in healthcare delivery and patient-centered outcomes (Cook, 2001; Hanson et al., 2016; Stanley, 2006).

The Clinical Leadership Competency Framework (CLCF) developed by the National Health Service Leadership Academy identifies several important dimensions of clinical leadership. These include personal qualities, working with others, managing services, improving services, and setting direction as a change agent. Personal qualities involve professionalism, ethics, empathy, and communication skills. Working with others emphasizes collaboration and interprofessional teamwork. Managing services focuses on organizing and evaluating healthcare delivery to ensure quality and patient safety. Improving services involves innovation and continuous quality improvement, while setting direction refers to the ability to lead organizational change and motivate healthcare teams toward common goals (National Health Service Leadership Academy, 2010).

Clinical leaders also play a strategic role in healthcare organizations by strengthening teamwork, improving communication, and facilitating organizational adaptation to change. Effective leaders create open communication channels, encourage staff participation, and build collaborative work cultures that support healthcare quality improvement. In dynamic healthcare environments, clinical leaders are expected to respond quickly to technological developments, policy changes, and increasing service demands. Leadership structures that involve clinically active professionals help organizations maintain strong clinical oversight and ensure that management decisions remain aligned with patient care priorities (Goleman, 2017; Hackman & Wageman, 2005; Kotter, 2021; Penno & Gauld, 2017).

Overall, clinical leadership is considered a key component in achieving safe, effective, and patient-centered healthcare services. Research has shown that effective clinical leadership positively influences patient outcomes, nurse satisfaction, staff retention, teamwork effectiveness, and healthcare quality improvement. Clinical leaders not only maintain service standards but also empower healthcare workers to participate in innovation, evidence-based practice, and organizational transformation. Therefore, strengthening clinical leadership competencies among healthcare professionals, especially nurses, is essential to support sustainable healthcare development and improve organizational performance in hospitals (Cummings et al., 2010; Fealy et al., 2011).

Effective Communication

Effective communication is defined as a process in which information, ideas, and emotions are conveyed clearly and understood accurately by all parties involved. Effective communication is not only about delivering messages but also about ensuring that the intended meaning is properly received and interpreted. In healthcare settings, effective communication is essential to support patient safety, reduce medical errors, improve teamwork, and ensure consistency in patient care plans. Effective communication also involves active listening, understanding emotions, providing feedback, and creating mutual understanding between healthcare professionals. Good communication strengthens trust, collaboration, problem-solving, and decision-making within healthcare teams (Guffey & Loewy, 2010).

Communication within healthcare organizations involves several important components, including the sender, message, communication channel, receiver, and feedback. Messages must be clear, relevant, accurate, and delivered through appropriate communication channels such as verbal interaction, written documentation, or digital systems. Feedback is particularly important because it confirms whether the message has been correctly understood by the receiver. In organizational and interpersonal communication theories, effective communication is supported by open communication systems, active listening, empathy, transparency, and constructive feedback. Formal communication includes meetings, reports, and official documentation, while informal communication occurs through daily interactions among healthcare staff. Both forms are necessary to maintain effective collaboration and coordination within healthcare teams (Adler et al., 2003).

Several factors influence communication effectiveness in healthcare organizations, including message clarity, interpersonal relationships, organizational culture, and the use of communication technology. A supportive organizational culture encourages openness, collaboration, and mutual respect among healthcare workers, which improves communication quality. Effective communication is commonly measured through dimensions such as communication satisfaction, feedback, and information quality. Communication satisfaction refers to how clearly messages are delivered and understood.

Feedback represents the responses provided by communication recipients, while information quality relates to accuracy, relevance, credibility, completeness, and transparency of shared information. These dimensions are essential for creating effective teamwork, improving healthcare quality, and supporting patient-centered care in healthcare organizations (Goleman, 2017; Jensen & Trenholm, 1992).

Interprofessional Collaboration

Interprofessional collaboration refers to cooperation among various healthcare professions in delivering integrated healthcare services aimed at improving patient quality of care and safety. This collaboration involves effective communication, coordination, and mutual understanding of professional roles among doctors, nurses, pharmacists, and other healthcare providers to achieve shared goals in patient care (Reeves et al., 1996). Effective interprofessional collaboration has been shown to reduce medical errors, improve patient satisfaction, and enhance healthcare workers' job satisfaction through clearer task distribution and responsibilities. In practice, interprofessional collaboration emphasizes teamwork, mutual respect, and shared decision-making to provide holistic and patient-centered care.

Interprofessional collaboration plays a crucial role in improving healthcare team effectiveness. Collaboration among healthcare professionals can accelerate decision-making processes, enhance care coordination, and minimize the risk of medical errors. Several important aspects of interprofessional collaboration include role clarity, trust among team members, and the ability to manage conflicts or differences in perspectives. Role clarity helps each team member understand their contribution within the team, while trust is developed through open communication and continuous collaborative experiences. In addition, the ability to overcome challenges while maintaining focus on patient safety and quality care is essential for successful healthcare teamwork.

Various interprofessional collaboration models have been developed to support effective healthcare delivery. The World Health Organization (WHO, 2010) emphasizes the importance of communication, understanding professional roles, and shared decision-making in collaborative practice. Furthermore, community-based models and digital technology integration have increasingly been utilized to strengthen coordination among healthcare professionals. Interprofessional collaboration not only focuses on task distribution but also promotes work engagement, respect for professional competencies, and effective communication within healthcare teams. This collaborative approach enables healthcare professionals to work synergistically in delivering efficient and high-quality healthcare services.

The main dimensions of interprofessional collaboration are described in the Interprofessional Education Collaborative (IPEC) Core Competencies framework, which includes values and ethics, roles and responsibilities, interprofessional communication, and teams and teamwork. The values and ethics dimension emphasizes respect for patients' rights and professional accountability, while the roles and responsibilities dimension focuses on understanding each profession's contribution within the team. Interprofessional communication highlights the importance of delivering information clearly, openly, and appropriately, whereas the teams and teamwork dimension emphasizes coordination, collaboration, and mutual support among team members to achieve patient care goals. These four dimensions form the foundation for effective collaborative practice in healthcare settings.

In conclusion, interprofessional collaboration is a multidisciplinary approach that promotes coordinated, effective, and patient-centered healthcare services. It requires strong communication, clear understanding of professional roles, shared ethical values, and effective teamwork to improve healthcare quality and patient outcomes. Effective collaborative practice not only benefits patients through improved quality of care but also enhances job

satisfaction and overall healthcare team performance.

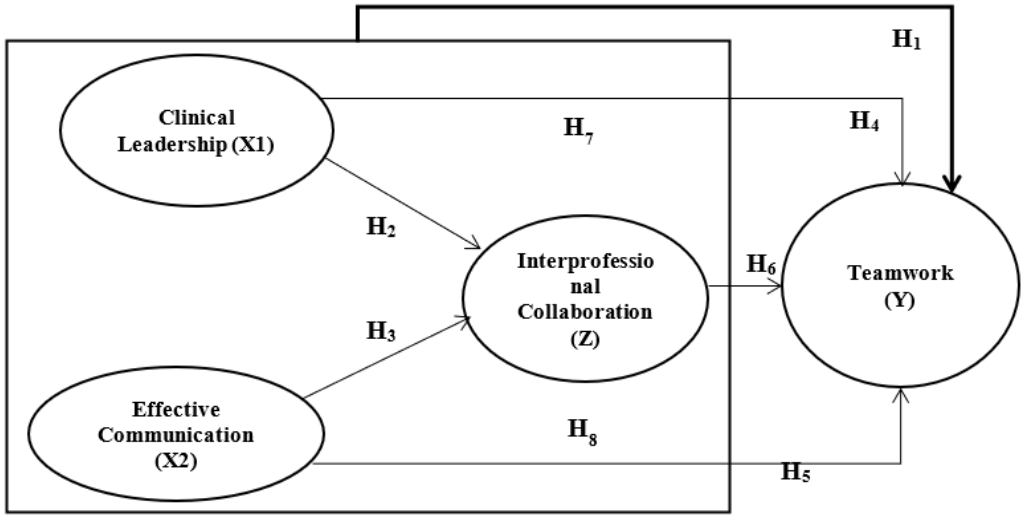


Figure 2. Conceptual Framework

3. Proposed Method

This study was conducted at X Hospital from June to August 2025 using a quantitative cross-sectional design. The research aimed to analyze the influence of clinical leadership and effective communication on teamwork effectiveness in inpatient units, with interprofessional collaboration serving as an intervening variable. The study population consisted of 516 healthcare professionals, including doctors, nurses, and medical support staff. Using stratified random sampling, 226 respondents were selected to ensure proportional representation, consisting of 51 doctors, 107 nurses, and 68 medical support staff.

Data were collected using standardized questionnaires to measure each variable. Teamwork effectiveness was assessed using the TeamSTEPPS Teamwork Attitudes Questionnaire (T-TAQ), clinical leadership was measured using the Health Education England and NHS Leadership Academy framework, effective communication was evaluated using the Communication Satisfaction Questionnaire (CSQ), and interprofessional collaboration was measured using the Interprofessional Education Collaborative framework. Data analysis employed Structural Equation Modeling (SEM) with SmartPLS 3.0 to examine the relationships among variables and test both direct and indirect effects within the proposed research model.

4. Results and Discussion

Respondent Characteristics

The respondent characteristics indicate that the largest professional group consisted of nurses, with 107 respondents (47.3%), followed by doctors, with 51 respondents (22.6%). The remaining respondents were categorized as medical support staff, including radiographers, laboratory supervisors, midwives, pharmacists, pharmacy technicians, medical records officers, and physiotherapists. Among the medical support staff, clinical staff (pelaksana) represented the highest proportion, with 14 respondents (6.2%), followed by staff midwives, with 11 respondents (4.9%). This distribution demonstrates that the study involved a diverse range of healthcare professionals representing multidisciplinary healthcare services within the hospital.

Validity Test

Based on the validity test results for all research variables, all research indicators are valid and suitable for use in this study. Each construct demonstrated outer loading values above the recommended threshold of 0.70, confirming strong convergent validity. Clinical Leadership indicators ranged from 0.931 to 0.953, Teamwork indicators ranged from 0.920 to 0.956, Interprofessional Collaboration indicators ranged from 0.968 to 0.980, and Effective Communication indicators ranged from 0.940 to 0.950. These findings show that all indicators accurately measure their respective constructs and can be reliably applied in the research analysis.

Realibility Test

Tabel 1. Realibility Test

Variable	Cronbacch's Alpha	Composite Reliability	Description
Clinical Leadership	0.968	0.975	Reliabel
Teamwork	0.967	0.974	Reliabel
Interprofessional Collaboration	0.981	0.986	Reliabel
Effective Communication	0.94	0.961	Reliabel

Source: Results of Primary Data Analysis, 2026

The table above shows that the four constructs that are research variables, namely clinical leadership, teamwork, effective communication, and interprofessional collaboration, have composite reliability and Crombach's alpha values > 0.70. Therefore, it can be concluded that all constructs meet the required reliability.

Hypotesis Test

Hypothesis Testing Results – The research data were processed using SmartPLS.

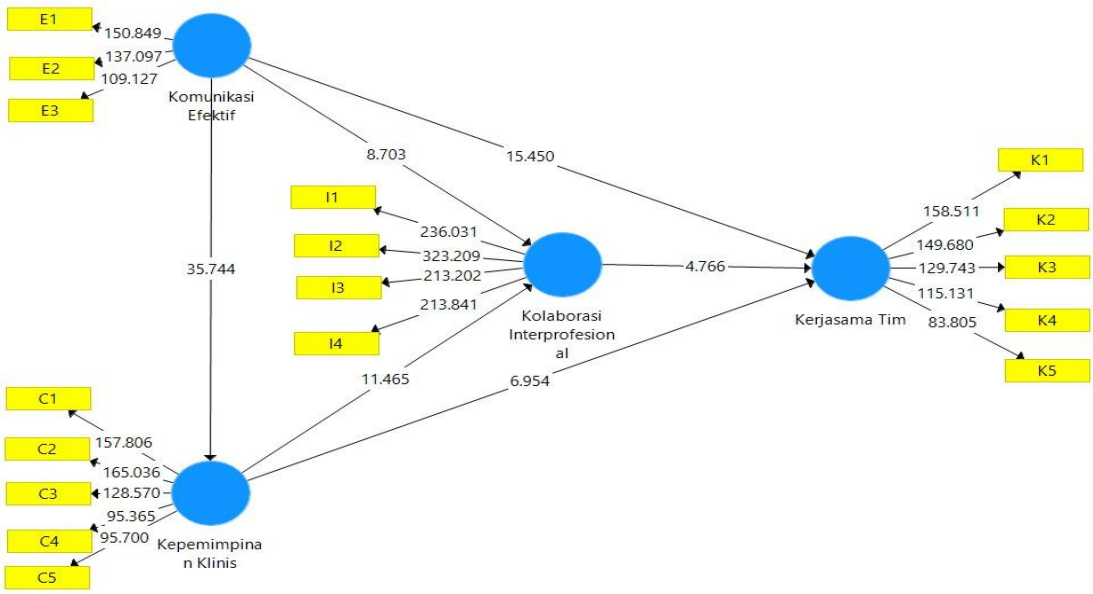


Figure 3. Research Model

The figure above presents the results of the bootstrapping analysis on the final structural model used to examine the effects of clinical leadership, effective communication, and interprofessional collaboration on teamwork. The analysis shows that all major relationships have t-statistic values ≥ 1.96, indicating statistically significant effects at the 5% significance level. Clinical leadership has a significant effect on teamwork (t = 6.954) and interprofessional collaboration (t = 11.465). Effective communication also significantly influences interprofessional collaboration (t = 8.703) and teamwork (t = 15.450). In addition, interprofessional collaboration as an intervening variable significantly affects teamwork (t = 4.766). These findings indicate that clinical leadership, effective communication, and interprofessional collaboration play important roles in improving teamwork.

Tabel 2. Results of Path Statistical Analysis

	Effect	Path Coefficient (β)	t-Statistic	*P Value*	Description
CL, EC, IC → TE	Direct	-	-	0,000	H1 Accepted
CL → IC	Direct	0.539	11.465	0.000	H2 Accepted
EC → TE	Direct	0.542	15.450	0.000	H3 Accepted
CL → TE	Direct	0.271	6.954	0.000	H4 Accepted
EC → IC	Direct	0.432	8.703	0.000	H5 Accepted
IC → TE	Direct	0.204	4.766	0.000	H6 Accepted
EC → TE	Indirect	0.110	8.866	0.000	H7 Accepted
CL → TE	Indirect	0.393	11.110	0.000	H8 Accepted

Source: Results of Primary Data Analysis, 2025

Based on the table, it is evident that all indicators demonstrate a significant influence on teamwork effectiveness, as indicated by p-values of 0.000 ($p < 0.05$). Clinical leadership has a significant relationship with interprofessional collaboration, with a path coefficient (β) of 0.539 and a t-statistic of 11.411. Furthermore, effective communication is significantly associated with teamwork effectiveness ($\beta = 0.542$; $t = 6.730$), indicating that high-quality communication strengthens team performance. Clinical leadership also shows a significant direct relationship with teamwork effectiveness ($\beta = 0.271$; $t = 15.69$), suggesting that the direct influence of clinical leadership on teamwork is statistically robust.

Additionally, effective communication is significantly related to interprofessional collaboration ($\beta = 0.432$; $t = 8.716$), which implies that superior communication practices enhance interprofessional interaction. Interprofessional collaboration also significantly impacts teamwork effectiveness ($\beta = 0.204$; $t = 4.581$), meaning that effective interprofessional synergy contributes to overall team effectiveness.

The results also identify indirect relationships between clinical leadership and teamwork effectiveness mediated by interprofessional collaboration. These indirect effects are statistically significant, with t-statistics of 11.110 for clinical leadership and 8.866 for effective communication, respectively.

Discussion

Clinical leadership plays a strategic role in directing, motivating, and ensuring that every team member operates according to their competencies and responsibilities. Effective clinical leaders are capable of creating a conducive work environment, supporting evidence-based decision-making, and encouraging active participation from all team members. The significance of clinical leadership within healthcare services has been extensively discussed in contemporary literature.

Leadership styles, such as transformational and situational leadership, have been proven to foster collaboration, enhance cross-professional coordination, and support a work climate conducive to effective team collaboration, despite persistent challenges like professional hierarchy and role fragmentation in clinical practice. Furthermore, clinical leadership involves the role of nurses as change agents who actively promote quality improvement and innovation in nursing practices.

Additionally, effective communication is a key factor in supporting teamwork. Clear, open, and respectful communication enables the accurate and timely exchange of clinical in-

formation. These findings indicate that effective communication is a fundamental cornerstone of teamwork. Clear, accurate, and respectful communication among team members can enhance task coordination, reduce interpersonal errors, and strengthen mutual trust within healthcare teams.

According to Adler et al. (2003), interpersonal communication involves the exchange of verbal and non-verbal messages that can either build or undermine relationships. Teams in inpatient units must communicate effectively to avoid misinterpretation of patient interventions. Strategically, hospitals need to promote interprofessional communication training focusing on active listening skills, constructive feedback, and the use of agreed-upon cross-professional terminology. The implementation of SBAR (Situation, Background, Assessment, Recommendation) as a clinical communication standard can also strengthen the accurate and systematic transfer of information during daily interactions.

Furthermore, hospital management is encouraged to develop routine interprofessional communication forums, such as daily briefings or case conferences, to facilitate open and collaborative dialogue. Such initiatives not only bolster teamwork effectiveness but also build a participatory and inclusive organizational culture. According to the Shared Mental Model Theory, effective communication creates a shared understanding within the team regarding goals, roles, and the clinical situations at hand. This strengthens work coordination and mitigates interpersonal conflict. This theory emphasizes that message clarity and active listening are essential elements underlying successful collaboration and team effectiveness.

The results of this study support interprofessional communication theories, such as those by the Interprofessional Education Collaborative (IPEC), which emphasize that effective communication is a core competency in cross-disciplinary team collaboration. This theory states that communication skills support shared decision-making, intervention coordination, and the prevention of miscommunication that could lead to clinical errors (IPEC, 2011). Effective communication has a significant direct influence on teamwork effectiveness, indicating that superior communication among team members leads to higher quality cooperation. This condition is consistent with the concept of Closed-Loop Communication, which emphasizes the importance of feedback and clarification in clinical communication.

5. Comparison

Based on previous studies, there are several similarities and differences compared to the current research. The similarities lie in the variables studied, namely clinical leadership, effective communication, and teamwork effectiveness in healthcare services, as well as the use of questionnaires as the primary data collection instrument. Previous studies consistently found that effective communication and strong leadership significantly improve teamwork quality among healthcare professionals. In addition, prior studies also emphasized the importance of leadership development, communication training, and interprofessional collaboration in enhancing healthcare service quality.

However, this study offers several distinctions and novelties compared to previous research. Earlier studies generally applied multiple regression analysis with two independent variables and one dependent variable, whereas this study develops a more comprehensive model by incorporating interprofessional collaboration as an intervening variable between clinical leadership, effective communication, and teamwork effectiveness. Furthermore, this research employs SEM-PLS and path analysis to examine both direct and indirect relationships among variables. Another important difference is that this study specifically focuses on healthcare professionals working in inpatient units at Hospital X, providing a more contextual understanding of how clinical leadership, effective communication, and interprofessional collaboration influence teamwork effectiveness within Indonesian hospital settings. effects.

6. Conclusions

Based on the results of the study, clinical leadership, effective communication, and interprofessional collaboration simultaneously have a significant influence on teamwork effectiveness in the inpatient unit of Hospital X. Clinical leadership was found to directly affect teamwork and interprofessional collaboration, indicating that effective leaders are able to improve coordination, cooperation, and relationships among healthcare professionals. In addition, effective communication also showed a significant direct influence on teamwork effectiveness and interprofessional collaboration. Clear and open communication helps

minimize misunderstandings, strengthens coordination, and supports faster clinical decision-making among team members.

The findings also revealed that interprofessional collaboration plays an important mediating role in strengthening the influence of clinical leadership and effective communication on teamwork effectiveness. Effective leadership and communication not only improve teamwork directly, but also indirectly through enhanced collaboration among healthcare professionals. Good collaboration enables healthcare workers to coordinate care more effectively, understand patient management comprehensively, and perform their professional roles optimally. Overall, the study objectives were achieved, both in providing theoretical insights into healthcare team dynamics and practical implications for managerial interventions aimed at improving teamwork effectiveness in inpatient services.

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