THE ROLE OF CLINICAL LEADERSHIP AND WORK ENGAGEMENT IN IMPROVING PATIENT SAFETY CULTURE: INTERPROFESSIONAL COLLABORATION MEDIATOR AT EMHAKA HOSPITAL

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Abstract

This study is motivated by the importance of building an effective patient safety culture in the hospital environment, which can be influenced by factors such as clinical leadership and work engagement. This study aims to analyze the effect of Clinical Leadership and Work Engagement on patient safety culture mediated by Interprofessional Collaboration of nurses at Emhaka Hospital. The research design used was quantitative with a cross-sectional approach. The study sample consisted of 118 nurses selected using purposive sampling techniques and calculated using saturated side. Data were collected through a 4-point Likert scale questionnaire, which included the variables of Clinical Leadership, Work Engagement, Interprofessional Collaboration, and Patient Safety Culture. Data analysis was performed using SEMP-PLS (Structural Equation Modeling Partial Least Squares) software. The results showed that Clinical Leadership and Work Engagement had a significant effect on Patient Safety Culture, both directly and through the mediation of Interprofessional Collaboration. These findings emphasize the importance of improving clinical leadership and nurse involvement in improving interprofessional collaboration, which in turn can strengthen patient safety culture at Emhaka Hospital. This study contributes to the development of hospital policies that focus on improving patient safety through effective leadership and increasing nurse work engagement.

Keywords: Clinical Leadership, Work Engagement, Patient Safety Culture, Interprofessional Collaboration

1. INTRODUCTION

Emhaka Hospital, previously known as Taman Harapan Baru Mother and Child Hospital, underwent a name change in December 2023 but with the same owner and management. Currently, this hospital serves general patients, with the majority of users of the National Health Insurance program. To improve patient safety, Emhaka Hospital needs to strengthen its patient safety culture. Interview results showed that around 70% of nurses reported patient safety incidents, such as medication errors, which still occur frequently. This indicates the low implementation of a patient safety culture in the hospital, which requires improvements in interprofessional communication, strengthening Clinical Leadership, and increasing training for medical personnel.

Clinical Leadership is one of the main factors affecting patient safety. Based on a preliminary survey, 70% of nurses stated that lack of support from clinical leaders led to an increase in the incidence of patient safety incidents. Clinical leaders who are unable to provide clear direction and adequate supervision create a work environment that is prone to errors. In addition, the lack of leadership ability in building a culture of safety and enforcing patient

safety procedures also results in many incidents that are not handled effectively. This affects nurses' motivation and confidence in reporting safety risks, which ultimately worsens the patient safety situation in the hospital.

In addition, Work Engagement also plays an important role in patient safety. As many as 60% of nurses admit that low engagement in their work contributes to patient safety issues. When nurses do not feel emotionally, mentally, and physically engaged, their commitment to their duties and responsibilities decreases. Ineffective communication between nurses, doctors, and pharmacists often leads to miscommunication that endangers patient safety. Low Work Engagement also reduces the quality of service, worsens team coordination, and increases the risk of errors. Interprofessional collaboration is also an important factor in supporting patient safety, but the results of interviews with 60% of nurses showed that Interprofessional Collaboration in this hospital is still not optimal. Differences in professional hierarchy are an obstacle to collaboration, where nurses feel less courageous to provide input or confirm problems with doctors or pharmacists.

Interprofessional Collaboration nurses become a mediating factor that strengthens the relationship between Clinical Leadership and Work Engagement on patient safety culture. Previous studies have discussed the importance of transformational leadership in improving patient safety culture, both directly and through mediating variables such as work engagement and safety culture (Hamdan et al., 2024; Ree & Wiig, 2020; Tangatarova & Gao, 2021). However, no study has specifically explored Clinical Leadership, namely clinical competency-based leadership, which is relevant to the role of nurses on the front lines of health care. In addition, although Work Engagement has been identified as a significant factor in strengthening patient safety culture (Novadiana et al., 2024; Scott et al., 2022), research that integrates Clinical Leadership and Work Engagement as factors that influence patient safety culture together is still very limited, especially in hospitals. Research also shows that interprofessional collaboration plays an important role in supporting patient safety practices (Kida et al., 2024; Rizkia et al., 2022). However, there has been no research that places interprofessional collaboration as a mediating variable that connects Clinical Leadership and Work Engagement to patient safety culture. In addition, previous studies tend to be conducted in general hospitals or on a global scale without considering specific local factors such as Emhaka Hospital. Therefore, this study will fill this gap by exploring the influence of Clinical Leadership and Work Engagement on patient safety culture, by placing interprofessional collaboration as a mediator, in terms of local hospitals at Emhaka Hospital. This study is expected to provide theoretical and practical contributions in efforts to improve patient safety.

This study aims to fill the knowledge gap by exploring the influence of Clinical Leadership and Work Engagement on patient safety culture, as well as placing interprofessional collaboration as a mediator in local hospitals such as Emhaka Hospital. This study is expected to contribute to the development of integrative strategies to strengthen patient safety culture in hospitals.

2. THEORY REVIEW

Patient Safety Culture

Patient safety culture is a pattern of behavior that supports transparency, learning from mistakes, and preventing similar incidents in the future. It involves an organizational commitment to ensuring that evidence-based practices are consistently applied and promotes

an understanding of risk (Reason, 1990; Vincent, 2010). Awareness of risk and rapid response to incidents are key to creating a safe and reliable environment in health care (Leape, 2003; Sutcliffe & Weick, 2007).

Interprofessional Collaboration

Interprofessional Collaboration refers to collaboration between professionals from various disciplines to improve health care outcomes in an integrated manner. This collaboration includes effective communication, clear role management, and appreciation for the contributions of each team member (Zwarenstein et al., 2005; Reeves et al., 2010). In addition, this coordinated interaction also involves patients and communities as an integral part of the health care team (Thistlethwaite, 2012).

Clinical Leadership

Clinical Leadership is the ability of leaders in health care to integrate clinical knowledge with managerial skills, lead change, and deliver optimal outcomes in clinical practice and patient care (Joseph & Huber, 2015; Swanwick & McKimm, 2017). Clinical leaders play a critical role in driving innovation, improving service quality, and ensuring patient safety through evidence-based leadership (Kusumapradja, 2024; Abela, 2023).

Work Engagement

Work Engagement refers to the level of commitment and enthusiasm of nurses in achieving organizational goals, which is reflected in positive contributions to service quality and productivity. This involvement has two main components, namely intellectual and emotional aspects, which encourage nurses to feel involved and responsible in their work (Baumruk & Marusarz, 2004; Kruse, 2012). Work Engagement is closely related to job satisfaction, efficiency, and quality of service provided (Osborne & Hammoud, 2017; Sharma et al., 2019).

3. RESEARCH METHODS

This study uses a quantitative method with a cross-sectional approach to analyze the relationship between variables at a certain time. The main focus of the study is to assess the influence of Clinical Leadership and Work Engagement on patient safety culture, with Interprofessional Collaboration as a mediator, on nurses at Emhaka Hospital. The design of this study involves a model of relationships between variables that test the direct and indirect effects between independent variables, mediators, and dependent variables.

The study population consisted of 118 inpatient and outpatient nurses at Emhaka Hospital, with the exception of managerial nurses. The sampling technique used was purposive sampling with saturated sampling to ensure representative data and reduce bias. Data collection was carried out through semi-structured interviews and questionnaires with a Likert scale, as well as secondary data from literature studies and hospital documentation. Data analysis used SEM-PLS to test the research model and identify the influence between variables with reliability, validity, and hypothesis testing.

4. RESULTS AND DISCUSSION
Results
Respondent Characteristics

The majority of nurses at Emhaka Hospital are aged 25-35 years, with 48.3% aged 25-30 years and 41.5% aged 31-35 years, indicating that they are in the early to mid-career phase. Most nurses are women (81.4%) with a D3 Nursing education (89.8%), while 63.6% are married, which can affect the balance between work and family. In terms of experience, 41.5% of nurses have 2-5 years of experience and 33.9% have worked for 5-10 years, reflecting a nursing workforce that is quite experienced and ready to provide optimal health services.

Three Box Method

Table 1 Three Box Me Score Matrixthod

No	Variables	Score			Behavior
		Low	Currently	Tall	
1	*Clinical Leadership*			√	Self-confident
2	*Work Engagement*			√	Involved
3	*Interprofessional Collaboration*			√	Effectiveness
4	Patient safety culture			√	Care

All variables analyzed—Clinical Leadership, Work Engagement, Interprofessional Collaboration, and Patient Safety Culture—scored highly. Clinical Leadership reflects the confidence of clinical leaders in managing teams, while Work Engagement indicates the active involvement of healthcare workers. Interprofessional Collaboration reflects effective interprofessional collaboration, although there is still room for improved coordination. Patient Safety Culture shows a high level of concern for patient safety, but requires strengthening of systems and procedures for a more optimal response to errors or incidents.

Outer Model (Measurement Model)

Outer loading

According to the results of the outer loading test, all indicators show an outer loading value greater than 0.7, so the indicators above are said to be valid.

Construct Reliability

*Table 2 Test results*Construct Reliability

Variables	Cronbach's alpha	Composite reliability	Results
Clinical Leadership(X1)	0.931	0.942	Reliable
Work Engagement(X2)	0.884	0.912	Reliable
Interprofessional Collaboration(Z)	0.923	0.937	Reliable
Patient Safety Culture (Y)	0.975	0.977	Reliable

From table 2 above, it can be seen that the Cronbach's alpha value of all variables is greater than 0.7 according to the criteria explained by Hair et al. (2019, 2020). In addition, the combined reliability of all variables must be above 0.7, according to recommendations, no additional reliability indicators were found (Hair et al., 2019). From the data related to reliability testing, it can be concluded that all indicators have shown internal consistency which means they are considered reliable for measuring constructs.
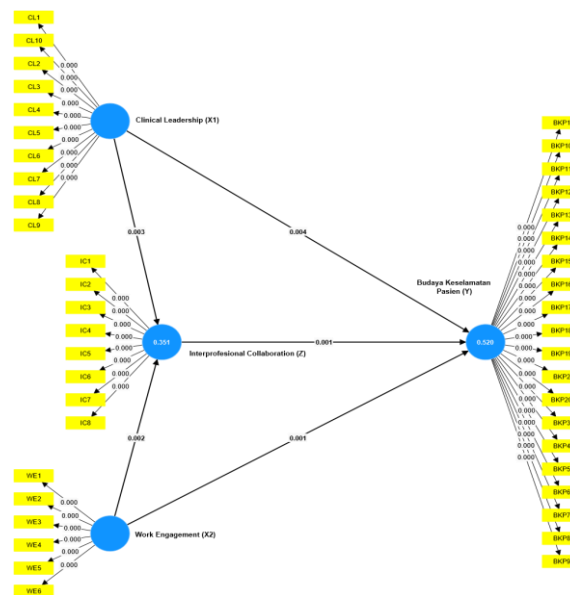
Inner Model (Structural Model)

Figure 1 Measurement Model (Inner Model)

R-Squared Determination Coefficient (R2)

Table 3. Results of R squared (R2))

Variables	R-square
Interprofessional Collaboration(Z)	0.351
Patient Safety Culture (Y)	0.520

Based on the data in Table 4, the Interprofessional Collaboration variable has an R-Squared value of 0.351, which is classified as weak, meaning that only 35.1% of the variation in Interprofessional Collaboration can be explained by the independent variables, while 64.9% is explained by other factors. Meanwhile, Patient Safety Culture has an R-Squared value of 0.520, which is classified as moderate, indicating that 52.0% of the variation in Patient Safety Culture can be explained by the independent variables, with 48.0% explained by external factors. Interprofessional Collaboration acts as a mediating variable that influences the relationship between independent variables such as Clinical Leadership and Work Engagement with Patient Safety Culture. The more relevant predictor variables in the model, the greater the potential for increasing the R² value.

Hypothesis testing

Table 4 Hypothesis Test Results

Hypothesis	Influence	Original sample (O)	T statistics (|O/STDEV|)	P values	Information
H1	*Clinical Leadership*, Work Engagement and Interprofessional Collaboration -> Patient Safety Culture	Chi-square = 22.30 F table = 2.684			Accepted
H2	*Clinical Leadership*(X1) -> Interprofessional Collaboration (Z)	0.295	2,808	0.003	Accepted

H3	*Work Engagement(X2) -> Interprofessional Collaboration (Z)*	0.347	2,904	0.002	Accepted
H4	*Clinical Leadership(X1) -> Patient Safety Culture (Y)*	0.292	2,628	0.004	Accepted
H5	*Work Engagement(X2) -> Patient Safety Culture (Y)*	0.300	2,982	0.001	Accepted
H6	*Interprofessional Collaboration(Z) -> Patient Safety Culture (Y)*	0.248	2,989	0.001	Accepted
H7	*Clinical Leadership(X1) -> Interprofessional Collaboration (Z) -> Patient Safety Culture (Y)*	0.073	1,902	0.029	Accepted
H8	*Work Engagement(X2) -> Interprofessional Collaboration (Z) -> Patient Safety Culture (Y)*	0.086	2,032	0.021	Accepted

Discussion

1. The simultaneous influence of Clinical Leadership, Work Engagement, and Interprofessional Collaboration on Patient Safety Culture

The results of the study showed that Clinical Leadership, Work Engagement, and Interprofessional Collaboration simultaneously had a significant effect on Patient Safety Culture. This indicates that patient safety in hospitals does not only depend on one factor, but is the result of a combination of effective clinical leadership, involvement of health workers in work, and optimal cross-professional collaboration. These three variables contribute to each other in creating a work environment that supports patient safety and improves the quality of hospital services. As explained by Robbins & Judge (2016), organizational culture has a major influence in influencing individual behavior to achieve patient safety goals, and Schein (2010) emphasized that organizational culture facilitates the achievement of patient safety goals. With these three variables, hospital operational efficiency can increase in line with increased synergy between effective leadership, involvement of health workers, and interprofessional collaboration, as explained by Jones & George (2014).

In addition, Clinical Leadership showed a high score on the nursing care management dimension, reflecting an effective level of leadership in managing and directing nursing care. The highest Work Engagement dimension is vigor, indicating high enthusiasm and energy from health workers, but the absorption dimension shows a lower level of involvement. In terms of Interprofessional Collaboration, the highest score was obtained from the value and ethics dimension for interprofessional practice, reflecting the importance of ethical values in cross-professional collaboration. However, challenges still exist in the team and teamwork dimensions that must be improved to increase interprofessional synergy. All of these findings are in line with Joseph & Huber (2015), which shows that good clinical leadership plays a role in creating a stronger patient safety culture through cross-professional collaboration, as well as Schaufeli et al. (2002) who emphasized the importance of work involvement in improving service quality.

2. The Influence of Clinical Leadership on Interprofessional Collaboration

Clinical Leadership has a positive and significant effect on Interprofessional Collaboration. Effective clinical leaders can create better communication and build mutual trust among health workers, which in turn strengthens cross-professional collaboration. This is in accordance with the theory of McShane & Glinow (2019), which explains that leadership in health organizations is very important for building effective coordination between professions. In addition, Luthans (2011) added that leaders who support cross-professional collaboration can create a more collaborative environment and allow health workers to be more open to input from various professions. Griffin et al. (2020) also stated that good leadership plays a role in building trust among health workers, strengthening collaboration in clinical decision making.

The results of the Three Box Method show that the highest score for Clinical Leadership is obtained from statements about providing safe and effective services within the limits of existing resources, while the lowest score is related to reflection on personal values and principles. The dimension of nursing care management is ranked highest, indicating the success of clinical leaders in managing care, while the service development dimension still needs to be improved. All of this supports the finding that good Clinical Leadership has a significant effect on improving Interprofessional Collaboration and creating a work environment that supports

more effective cross-professional collaboration, as explained by Joseph & Huber (2015) and Barr et al. (2005).

3. The Influence of Work Engagement on Interprofessional Collaboration

*Work Engagement*proven to have a significant influence on Interprofessional Collaboration, indicating that health workers with high work involvement are more likely to work together in cross-professional teams. This is in line with Kahn's theory (1990), which states that individuals with high levels of involvement are more active in participating in teamwork. Gibson et al. (2012) added that high work involvement contributes to increased effectiveness of interprofessional communication and coordination. Armstrong & Taylor (2014) also explained that health workers who feel valued and involved in their work will be more likely to work together effectively with other teams. With high involvement, health workers will be more proactive in collaborating to maintain patient safety.

At Emhaka Hospital, high Work Engagement is driven by a family-like organizational culture. Cooperative facilities and traditional and religious celebrations create a sense of mutual support among employees, which strengthens social and professional relationships. This strengthens the involvement of health workers and supports cross-professional collaboration, which in turn contributes to improving the culture of patient safety. This finding is in accordance with Schaufeli et al. (2002) who stated that high work engagement can encourage health workers to be more active in cross-professional collaboration, and Reeves et al. (2010) who explained that good inter-professional collaboration strengthens the quality of health services.

4. The Influence of Clinical Leadership on Patient Safety Culture

*Clinical Leadership*significantly influence Patient Safety Culture, indicating that strong clinical leadership can create a patient safety culture that is oriented towards compliance with procedures, effective communication, and a proactive attitude in dealing with medical risks. As explained by Daft (2016), strong leadership in an organization will form a culture that is more oriented towards patient safety. Robbins & Judge (2016) also stated that leaders who encourage safety in an organization will influence individual behavior to be more compliant with applicable procedures. Schein (2010) added that a well-managed organizational culture will influence the way health workers interact in implementing patient safety standards.

The analysis shows that Clinical Leadership has an average index score of 96.9, with the nursing care management dimension being the highest, reflecting the success of leadership in managing patient care. However, the service development dimension showed the lowest score, indicating the need for innovation in health services. This is in accordance with Swanwick & McKimm (2017), who stated that clinical leaders must combine managerial skills and clinical expertise to lead change towards safer and better quality services. Vincent (2010) also stated that patient safety culture focuses on efforts to reduce the risk of injury due to medical errors by implementing safe systems.

5. The Influence of Work Engagement on Patient Safety Culture

ork Engagement significantly influence Patient Safety Culture, indicating that healthcare workers who are highly involved in their work are more likely to have a greater concern for patient safety. Good involvement increases the focus, dedication, and initiative of healthcare workers in carrying out their duties more carefully and responsibly. As explained by Griffin et al. (2020), high involvement plays a role in increasing individual attention to safety aspects in the workplace. Luthans (2011) also emphasized that individuals who have high involvement will care more about the results of their work, so they are more likely to follow the established safety standards.

RS Emhaka shows that high Work Engagement plays an important role in strengthening Patient Safety Culture. With high involvement, health workers are more responsible for the safety procedures that must be followed, more careful in monitoring patient conditions, and more active in reporting and handling potential risks that can endanger patients. This is in accordance with the findings of Schaufeli et al. (2002) which showed that high involvement encourages nurses to be more proactive in implementing safety procedures, as well as Gibson et al. (2012), which stated that health workers who have high involvement will be more likely to work together to improve patient safety.

6. The Influence of Interprofessional Collaboration on Patient Safety Culture

nterprofessional Collaboration has a significant influence on Patient Safety Culture, indicating that effective cross-professional collaboration can improve patient safety through better communication and sharing of important information regarding patient conditions. As explained by Schein (2010), good interprofessional collaboration can strengthen the effectiveness of the team in achieving patient safety goals. McShane & Glinow (2019) emphasized that good coordination between professions increases the efficiency of clinical communication, thereby reducing the risk of medical errors. In addition, Daft (2016) stated that a collaborative work environment allows health workers to share information quickly and accurately, which has a direct impact on improving patient safety culture.

The results of the analysis showed that the dimensions of values and ethics for interprofessional practice obtained the highest scores, which emphasizes the importance of ethical-based collaboration in improving patient safety. However, challenges still exist in the dimensions of team and teamwork that need to be improved to strengthen interprofessional synergy. This finding is supported by Barr et al. (2005) who stated that interprofessional collaboration is very important in creating quality and safe care, and Reeves et al. (2010), who explained that effective cross-professional collaboration plays a role in creating a safe system for patients.

7. The Influence of Clinical Leadership on Patient Safety Culture through Interprofessional Collaboration

Clinical Leadership significantly influence Patient Safety Culture through the mediation role of Interprofessional Collaboration. This finding suggests that effective clinical leadership not only has a direct impact on patient safety, but also strengthens safety culture through increased cross-professional collaboration. Good clinical leaders can create an environment that supports interprofessional collaboration, which in turn strengthens patient safety standards in hospitals.

This is in line with the theory of Robbins & Judge (2016), which explains that leadership in an organization plays a role in forming more effective team dynamics and improving coordination in achieving patient safety goals. In addition, Jones & George (2014) emphasized that leaders who support cross-professional collaboration will create a more conducive environment for patient safety, thereby improving service outcomes.

Clinical Leadership had an average index score of 96.9, with the nursing care management dimension ranking the highest, reflecting the success of leaders in managing patient care. However, the service development dimension indicates opportunities for further innovation in health services. Meanwhile, Interprofessional Collaboration showed an average score of 89.2, with the values and ethics for interprofessional practice dimension scoring the highest, indicating the importance of ethical collaboration between professions in improving patient safety. However, there are still obstacles in the team and teamwork dimensions that require improvement in collaborative problem solving, as explained by McShane & Glinow (2019) and Gibson et al. (2012), who emphasized the importance of the role of leaders in supporting cross-professional collaboration to strengthen a culture of patient safety.

8. The Influence of Work Engagement on Patient Safety Culture through Interprofessional Collaboration

Work Engagement proven to have a significant influence on Patient Safety Culture with the mediating role of Interprofessional Collaboration. These results indicate that health workers who are highly involved in their work not only improve patient safety culture directly, but also through increased cross-professional collaboration. Health workers who are actively involved will be more responsive to team needs and more open to interprofessional collaboration, which in turn strengthens patient safety culture. These findings support Kahn's (1990) theory which states that individuals with high work involvement are more likely to collaborate effectively in teams. Griffin et al. (2020) added that the involvement of health workers in the team will increase their attention to patient safety, which strengthens interprofessional collaboration in clinical decision making.

At Emhaka Hospital, high levels of Work Engagement are driven by a family-like organizational culture, with cooperative facilities that support employees financially. This culture strengthens the sense of mutual support among employees, improves social and professional relationships, and encourages the involvement of health workers in their work. As explained by Schaufeli et al. (2002), high engagement will encourage health workers to be more proactive in cross-professional collaboration, which ultimately improves the culture of patient safety. Barr et al. (2005) also stated that inter-professional collaboration is very important in improving patient safety, with high involvement of health workers increasing the effectiveness of communication and coordination between professions, which in turn supports overall patient safety.

5. CONCLUSION AND SUGGESTIONS

Conclusion

Clinical Leadership, Work Engagement, and Interprofessional Collaboration simultaneously have a significant effect on Patient Safety Culture, meaning that the combination of the three has a major impact on the implementation of safety culture in hospitals.

Effective Clinical Leadership has a positive effect on Interprofessional Collaboration, so that the better the clinical leadership, the stronger the interprofessional collaboration. Likewise with Work Engagement, which increases Interprofessional Collaboration; high involvement of health workers, both in energy and dedication, encourages better collaboration between professions. In addition, Clinical Leadership also has a direct effect on Patient Safety Culture, where improving the quality of clinical leadership will strengthen the safety culture in hospitals. Work Engagement also contributes positively to Patient Safety Culture, because the involvement of health workers strengthens safety values in care. Good interprofessional collaboration also plays an important role in improving patient safety culture, so that the better the collaboration, the better the safety culture that is implemented. Furthermore, Clinical Leadership and Work Engagement each have an effect on Patient Safety Culture through Interprofessional Collaboration, indicating that improving leadership and work involvement can strengthen patient safety culture by strengthening interprofessional collaboration.

Suggestion

Based on the analysis results, several managerial implications for Emhaka Hospital include: for Clinical Leadership, there needs to be special training to improve technology-based service management and development of clinical leadership competencies, especially in cross-professional collaboration. Work Engagement can be strengthened with a comprehensive welfare program, such as comfortable break rooms and flexible schedules, as well as performance-based rewards to increase health worker engagement. Interprofessional Collaboration can be improved with interprofessional communication training and team-building activities involving all members of the medical team to strengthen synergy. As for Patient Safety Culture, there needs to be a transparent error reporting system and error response training, as well as the development of technology-based applications to improve inter-shift communication and improve patient safety.

To improve Clinical Leadership, Emhaka Hospital needs to provide training that focuses on developing self-reflection and self-awareness among clinical leaders, and utilize SIMRS for patient resource management. Work Engagement can be improved by providing welfare facilities, such as comfortable break rooms and performance-based rewards. To strengthen Interprofessional Collaboration, Emhaka Hospital should hold workshops on understanding the role of professions in the medical team and involve team-building activities between professions. Finally, for Patient Safety Culture, the implementation of a digital handover system and inter-shift communication training can improve the management of patient safety information and increase collaboration between health workers.

Further researchers are advised to expand the variables that influence patient safety culture, such as job satisfaction, motivation, or organizational commitment, to deepen the understanding of factors that influence patient safety culture. The use of advanced statistical analysis tools, such as SEM (Structural Equation Modeling), can increase the depth of analysis and take into account additional variables that may strengthen or modify the relationship between variables. Further research on the implementation of performance-based reward systems is also important to explore how outcome-based rewards can strengthen Work Engagement and Interprofessional Collaboration, as well as improve Patient Safety Culture in hospitals.

6. BIBLIOGRAPHY

Amarneh, B.H., & Al Nobani, F. (2022). The influence of physician-nurse collaboration on patient safety culture. Heliyon, 8, e10649.https://doi.org/10.1016/j.heliyon.2022.e10649

Anderson, E. S., Gray, R., & Price, K. (2017). Patient safety and interprofessional education: A report of key issues from two interprofessional workshops. Journal of Interprofessional Care, 31(2), 154–163.https://doi.org/10.1080/13561820.2016.1261816

Barr, H., Koppel, I., Reeves, S., Hammick, M., & Freeth, D. (2005). Effective Interprofessional Education: Arguments, Assumptions and Evidence. Blackwell Publishing.

Bass, E.J., & Hose, B.-Z. (2023). Perioperative environmental safety culture: A scoping review addressing safety culture, climate, enabling behaviors, and enabling factors. Anesthesiology Clinics, 41(4), 755–773.https://doi.org/10.1016/j.anclin.2023.06.004

Daft, R.L. (2016). Organization theory and design (12th ed.). Boston: Cengage Learning.

Davenport, DL, Henderson, WG, Mosca, CL, Khuri, SF, Mentzer, RM, Jr., & Participants in the Working Conditions of Surgery Residents and Quality of Care Study. (2007). Risk-adjusted morbidity in teaching hospitals correlates with reported levels of communication and collaboration on surgical teams but not with scale measures of teamwork climate, safety climate, or working conditions. Journal of the American College of Surgeons, 205(6), 778–784.https://doi.org/10.1016/j.jamcollsurg.2007.07.039

Gibson, J. L., Ivancevich, J. M., Donnelly, J. H., & Konopaske, R. (2012). Organizations: Behavior, structure, processes (14th ed.). McGraw-Hill Education.

Griffin, R., Philips, J., & Gully, S. (2020). Organizational behavior: Managing people and organizations (13th ed.). Cengage Brain.

Hamdan, M., Jaaffar, A.H., Khraisat, O., Issa, M.R., & Jarrar, M. (2024). The association of transformational leadership on safety practices among nurses: The mediating role of patient safety culture. Risk Management and Healthcare Policy, 17, 1687–1700.https://doi.org/10.2147/RMHP.S458505

Hesgebrak, K., Yount, N., Sorra, J., & Ginsberg, C. (2024). Associations between patient safety culture and workplace safety culture in hospital settings. BMC Health Services Research, 24, 568.https://doi.org/10.1186/s12913-024-10984-3

Huang, C., Wu, H., Lee, Y., & Li, X. (2024). The critical role of leadership in patient safety culture: A mediation analysis of management influence on safety factors. Risk Management and Healthcare Policy, 17, 513-523.https://doi.org/10.2147/RMHP.S446651

Huczynski, A., & Buchanan, D. A. (2014). Organizational behavior (8th ed.). Pearson.

Jones, G.R., & George, J.M. (2014). Contemporary management (8th ed.). New York: McGraw-Hill Education.

Joseph, M.L., & Huber, D.L. (2015). Clinical leadership and nursing management: Principles and practice. Journal of Healthcare Leadership, 7, 55–64.https://doi.org/10.2147/JHL.S68071

Kida, DG, Girsang, AJ, Kusumapradja, R., Hilmy, MR, Pamungkas, RA, & Dewi, S. (2022). The effect of interprofessional collaboration and transformational leadership on patient safety with work motivation as intervening variables. Research: Journal of Economics,

Accounting and Business Applications, 4(2), 39–53.https://doi.org/10.37641/research.v4i2.156

Kohn, L.T., Corrigan, J.M., & Donaldson, M.S. (Eds.). (2000). To err is human: Building a safer health system. Washington, DC: National Academies Press.

Linnik, L., Sepp, J., & Reinhold, K. (2023). Enhancing patient safety through leadership: A comprehensive literature review on the role of head nurses in hospital settings. Economics and Business, 37, 220-235.https://doi.org/10.2478/eb-2023-0014

Luthans, F. (2011). Organizational behavior: An evidence-based approach (12th ed.). New York: McGraw-Hill/Irwin.

McShane, S. L., & Glinow, M. A. (2019). Organizational behavior: Emerging knowledge and practice for the real world (5th ed.). McGraw-Hill Education.

Mistri, I. U., Badge, A., & Shahu, S. (2023). Enhancing patient safety culture in hospitals. Cureus, 15(12), e51159.https://doi.org/10.7759/cureus.51159

Novadiana, N., Arrozi, MF, & Indrawati, R. (2024). Work engagement as a mediator of organizational citizenship behavior towards patient safety culture at Hospital X Jakarta. Formosan Journal of Science and Technology, 3(3), 549–568.https://doi.org/10.55927/fjst.v3i3.8606

Novadiana, N., Arrozi, MF, & Indrawati, R. (2024). Work engagement as a mediator of organizational citizenship behavior towards patient safety culture at Hospital X Jakarta. Formosan Journal of Science and Technology, 3(3), 549–568.https://doi.org/10.55927/fjst.v3i3.8606

Reason, J. (1997). Managing the risks of organizational accidents. Aldershot: Ashgate.

Ree, E., & Wiig, S. (2020). Linking transformational leadership, patient safety culture, and work engagement in home care services. Nursing Open, 7(3), 256–264.https://doi.org/10.1002/nop2.386

Reeves, S., Lewin, S., Espin, S., & Zwarenstein, M. (2010). Interprofessional teamwork for health and social care. John Wiley & Sons.

Richmond, A., & Storr, J. (2010). Patient safety: A literary review on the impact of nursing empowerment, leadership, and collaboration. International Nursing Review, 57, 12–21.https://doi.org/10.1111/j.1466-7657.2009.00757.x

Rizkia, DG, Girsang, AJ, Kusumapradja, R., Hilmy, MR, Pamungkas, RA, & Dewi, S. (2022). The effect of interprofessional collaboration and transformational leadership on patient safety with work motivation as intervening variables. Research: Journal of Economics, Accounting and Business Applications, 4(2), 39–53.https://doi.org/10.37641/research.v4i2.156

Robbins, S. P., & Judge, T. A. (2017). Organizational behavior global edition. Pearson.

Schaufeli, W.B., Salanova, M., González-Romá, V., & Bakker, A.B. (2002). The measurement of engagement and burnout: A two-sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71–92.https://doi.org/10.1023/A:1015630930326

Schaufeli, W.B., Salanova, M., González-Romá, V., & Bakker, A.B. (2002). The measurement of engagement and burnout: A two-sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71–92.https://doi.org/10.1023/A:1015630930326

Schmidt, J., Gambashidze, N., Manser, T., Güß, T., Klatthaar, M., Neugebauer, F., & Hammer, A. (2021). Does interprofessional team-training affect nurses' and physicians' perceptions of safety culture and communication practices? BMC Health Services Research, 21, 341.https://doi.org/10.1186/s12913-021-06137-5

Scott, G., Hogden, A., Taylor, R., & Mauldon, E. (2022). Exploring the impact of employee engagement and patient safety. International Journal for Quality in Health Care, 34(3), mzac059.https://doi.org/10.1093/intqhc/mzac059

Scott, G., Hogden, A., Taylor, R., & Mauldon, E. (2022). Exploring the impact of employee engagement and patient safety. International Journal for Quality in Health Care, 34(3), mzac059.https://doi.org/10.1093/intqhc/mzac059

Swanwick, T., & McKimm, J. (2017). The ABCs of Clinical Leadership (2nd ed.). Wiley-Blackwell.

Tangatarova, S., & Gao, Y. (2021). Transformational leadership and patient safety in hospitals: The roles of safety culture, decision-making capacity, and locus of control. International Journal of Research in Business and Social Science, 10(2), 106–122.https://doi.org/10.20525/ijrbs.v10i2.1084

Thistlethwaite, J. (2012). Interprofessional education: A review of context, learning, and the research agenda. In T. Swanwick (Ed.), Understanding medical education: Evidence, theory and practice (pp. 197–209). Wiley-Blackwell.

Vikan, A. M., Bjørkly, S., & Hammer, A. (2023). The importance of interprofessional collaboration in patient safety: A scoping review. BMC Health Services Research, 23(1), 45–50.https://doi.org/10.1186/s12913-023-12342-0

Vincent, C. (2010). Patient safety (2nd ed.). Oxford: Wiley-Blackwell.

Walter, JK, Schall, TE, DeWitt, AG, et al. (2019). Interprofessional team member communication patterns, teamwork, and collaboration in pre-family meeting huddles in a pediatric cardiac intensive care unit. Journal of Pain and Symptom Management, 58(1), 11–18.https://doi.org/10.1016/j.jpainsymman.2019.04.009

Zwarenstein, M., Reeves, S., & Perrier, L. (2005). Effectiveness of pre-licensure interprofessional education and post-licensure collaborative interventions. Cochrane Database of Systematic Reviews.