

CHAPTER I

INTRODUCTION

1.1 Background

Healthcare-associated infections (HAIs) are critically important and emerging as a global concern in patient care due to their widespread impact on healthcare systems, patient outcomes, and public health. These infections, acquired during medical care, contribute to increased morbidity, mortality, and healthcare costs worldwide. (Allegranzi et al., 2011) The emergence of multidrug-resistant organisms, such as antibiotic-resistant bacteria, transcends national borders, posing a global threat to the effectiveness of infection control measures. (World Health Organization., 2014) HAIs, which have garnered increased attention due to their substantial impact on patient outcomes and healthcare costs all around the world. (Zimlichman et al., 2013).

HAIs prevalence can influence the Hospital image from patients that can directly impacted Hospital performances. To address this, issue hospital management need to follow international guidance by the World Health Organization (WHO) that establish Global Strategy on Infection Prevention and Control to emphasize the urgent need for coordinated strategies to prevent HAIs, promote hand hygiene, enhance surveillance, and reduce the inappropriate use of antibiotics. HAIs are no longer limited to individual healthcare facilities or regions but require a global response to safeguard patient safety and maintain the efficacy of healthcare systems on a worldwide scale. (Forrester et al., 2022) Therefore, hospital administrators need to manage the healthcare professionals during

operational business process in comply with the infection control precaution during their services.

The prevalence of healthcare-associated infections (HAIs) especially is a serious health concern in developing countries, as these infections pose a significant safety concern to healthcare patients. There was a higher mortality rate, longer hospital stays, and higher hospital costs among patients with HAI than those without it. (Gidey et al., 2023) The prevalence of Global HAIs 2023 worldwide was 0.14 %. The annual rate of Global HAIs is rising by 0.06% compared to previous year. Infection prevalence itself is higher in those under the age of five and those beyond the age of fifty. Within the hospital unit, transplant unit showed the highest rate of HAI prevalence in hospital wards (0.77%), followed by neonatal wards (0.69%) and ICU wards (0.68%).(Raofi et al., 2023)

The prevalence HAI in Indonesia in 2023 is 30.4%, the highest in Southeast area, whereas Singapore is the lowest with 8.4%. (Goh et al., 2023) Prevalence of HAIs in Indonesia of Surgical Site Infection in patients who underwent surgery was 5–8%, 3-4% phlebitis, 1% had UTI and 1–2% had septic in 2006. (Duerink et al., 2006) Patients with HAI had a higher in-hospital mortality rate (14.7% vs 7.8%, p 0.028) than those without HAI. In HAI patients, the LOS increased by approximately twice that of uninfected patients, and HAI cases stayed on average 8.3 days longer than controls. (Gidey et al., 2023)

The main challenges of Infection Control in Indonesia are not only about the availability of adequate microbiology laboratory capacity to support HAIs surveillance, but also related with human factor such as lack of education and training for Infection control personnels, and lack of support management of the

hospitals. (Gilbert & Kerridge, 2019; Supriadi et al., 2023) It is crucial to comprehend how infection prevention control strategies, principles, and innovations are put into practice. It is also important to understand how infection prevention control is positioned within the larger context of organizational Patient Safety Culture (PSC) in hospital isolation settings. (Gammon et al., 2019) Despite the major threat HAIs pose to patient safety, various strategies can be implemented to prevent them. Infection control occupies a special place in the field of patient safety in that it is universally relevant to nurses and doctors. The challenge is to create a culture of patient safety for infection control, ensuring that the responsibility for infection prevention is embedded at all levels of an organization. (Hunt et al., 2022) However, study that showed association between Empathy from healthcare workers and Patient Safety Culture and their direct or indirect impact in infection control performance in hospital was limited.

Based on national data from the Ministry of Health of the Republic of Indonesia, by 2023 Indonesia will have 3123 hospitals nationwide. A total of 843 hospitals (27%) are privately owned, with 625 hospitals (20%) owned by the government. This means that private ownership is the majority in Indonesian hospitals. (Kementrian Kesehatan RI, 2023) Considering that the number of private hospitals in Indonesia ranks at the top, there is a need for research that raises the problems experienced by private hospital management to provide entry based on empirical data.

In Jakarta area has total 196 Hospital within the area, with private hospital encompasses 46,5% and state-owned hospital 15,8%. Hospital in Jakarta Area mostly (45%) are categorized as Type C Hospital, followed by 32% Type B

Hospital. (Kementrian Kesehatan RI, 2023) With Jakarta currently has the highest number of hospital within Indonesia, the competition among hospitals in the Jakarta area is fierce and dynamic. Consequently, both public and private hospitals continually invest in expanding their infrastructure, upgrading medical technology, and enhancing the quality of healthcare services to attract and retain patients. This competition has led to innovations in healthcare delivery, increased specialization in medical fields, and efforts to improve patient experiences.

XYZ Hospital is a private hospital in Jakarta that has been established since 1973 and has international accreditation; Joint Commission International (JCI) and Australian Council on Healthcare Standards (ACHS) and national accreditation in Indonesia. XYZ Hospital Group has become a public company and is listed on the Indonesia Stock Exchange. In terms of business, XYZ Hospital Group continues to grow and currently has 15 hospitals spread throughout Indonesia with its chain clinics and laboratories.

XYZ Hospital, where this research is conducted, faces challenges in managing infection control risks. Recent data from Quality Committee of XYZ Hospital indicates a troubling upward trajectory in nosocomial HAIs for two consecutive quarters (described in Table 1.1), accompanied by an alarming increase

Table 1.1. Incident Related with HAIs in XYZ Hospital

| Year 2023 | Incident | Sentinel |
|-----------|----------|----------|
| Jan | 0 | 0 |
| Feb | 2 | 0 |
| Mar | 1 | 0 |
| Apr | 2 | 0 |
| May | 0 | 1 |
| Jun | 0 | 0 |
| Jul | 0 | 0 |
| Aug | 0 | 0 |

Source: Internal data from XYZ Hospital

in incident reports linked to HAIs. The identification of not just one, but five incident reports related to HAIs underscores the critical nature of this issue. Furthermore, the presence of a sentinel case directly associated with HAIs necessitates immediate and comprehensive action. Addressing these concerning trends and enhancing infection control protocols is imperative to ensure the safety and well-being of patients within XYZ Hospital.

There is another challenge of inadequate hand hygiene compliance at XYZ Hospital presents a critical intersection with the perceptions of risk and infection control outcome performance within the facility. Perceived risk of infection transmission is intimately linked to hand hygiene practices, as healthcare workers'

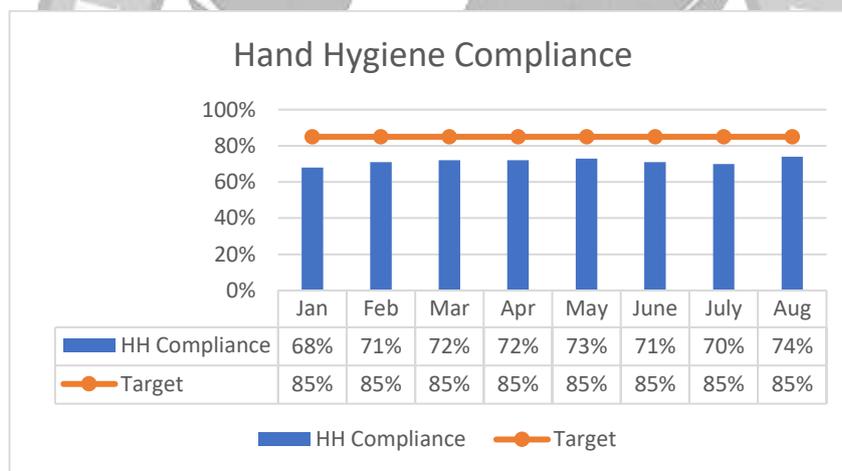


Figure 1.1. Hand Hygiene Compliance in XYZ Hospital

awareness of the potential consequences of inadequate hand hygiene significantly influences their behavior. The hospital workforce compliance is below national standard at 85% ranging from 68-74% throughout 2023 (described in Figure 1.1). The persistently low compliance rates observed in the infection control committee's quarterly reports not only signify a heightened risk of healthcare-associated

infections but also directly impact infection control outcome performance within the hospital. Addressing this challenge necessitates not only improving hand hygiene practices but also understanding and influencing healthcare providers' perceptions of the risks associated with suboptimal hand hygiene. Enhancing communication, training, and feedback mechanisms can not only bolster hand hygiene compliance but also contribute to more favorable infection control outcomes, ultimately enhancing patient safety within XYZ Hospital.

In addition to the prevailing infection control challenges, XYZ Hospital, the setting of this research, is confronted with another critical issue; an insufficient incident and near-miss reporting culture among its healthcare team members. The monthly reporting rate from Quality Committee of XYZ Hospital gathered of less than six incidents and near-misses (described in Figure 1.2), has given rise to the concerning "iceberg phenomenon," where only a fraction of potential safety

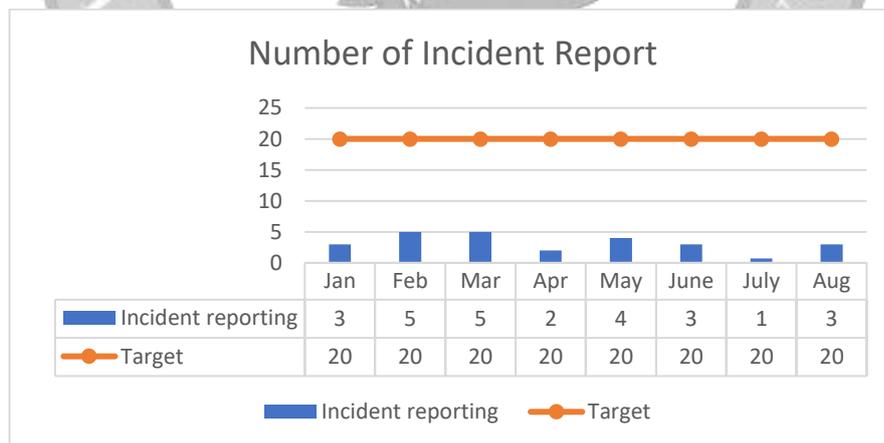


Figure 1.2. Number of Incident Report in XYZ Hospital

incidents are actually being reported and addressed. This underreporting presents a serious barrier to proactive risk mitigation and learning from near misses. Addressing this cultural challenge and encouraging open reporting is crucial for

uncovering hidden safety risks and fostering a culture of continuous improvement in patient safety within XYZ Hospital.

The theory behind perceived risk in infection control and performance draws from several psychological and behavioral theories, such as Health Belief Model (HBM) of Rosenstock (1974); Resource Based Theory (RBT) Protection Motivation Theory (PMT); combination of the HBM and PMT; Fear Appeals Theory; which provide insights into how individuals assess and respond to the risks associated with infectious diseases and the measures designed to mitigate them. (Floyd et al., 2000; R. W. Rogers, 1975; Rosenstock, 1974; Witte & Allen, 2000)

The theory behind patient safety culture draws heavily from two major theoretical frameworks: organizational culture theory and safety culture theory. (Azyabi et al., 2021; Doni Haas & Lorri Zipperer, 2007; Scott et al., 2003; Westat et al., 2021) But currently more precise examination of the sequential relationships between variables Empathy, PSC, Perceived Risk Nosocomial Infection (PRNI) and Perceived Outcome Infection Control Performance (PONI) were not yet established. Resource-Based Theory (RBT) is a management framework that emphasizes the importance of valuable, rare, and non-substitutable resources in achieving sustainable competitive advantage. When applied to human resources, it suggests that a firm can gain a competitive advantage by effectively managing and leveraging its workforce. (Rauber et al., 2016) In the context of infection control performance, Health Belief Model (HBM) is a psychological framework that explains individuals' health-related behaviors based on their perceptions of health threats and the perceived benefits of taking specific health actions. In the context of

infection control performance, the HBM can be applied to understand and influence employees' behaviors and beliefs. (Barney, 1991; Rosenstock, 1974)

While patient safety culture emphasizing open communication and empathy may promote a culture of learning and improvement, potentially increasing the perceived risk of adverse outcomes, empirical research specifically addressing this mediation pathway and its correlation with outcome performance is scarce. This represents a evidence gap in 4 elements. The first one: effect of PSC as mediation variables is currently unknown. Previous study has mentioned the effect of PSC to PONI, but not as mediation variables to empathy. The second: effect of PRNI as mediation variables. The role of PRNI in the formation of PONI has not been previously proven, although it is known that PSC is important in the formation of individual perceived risk. The third: sequential relationships between variables Empathy, PSC, PRNI and PONI has not yet been established. The fourth; direct and indirect influences between variables Empathy, PSC, PRNI and PONI on each other are unknown. Our understanding and highlights the need for further research to examine the complex interplay between patient safety culture, empathy, perceived risk, and its ultimate impact on infection control performance outcomes in healthcare settings. Regarding empathy and patient safety culture; while it is plausible that a lack of empathy among healthcare providers could lead to a heightened perception of risk regarding infection control, there is limited empirical research specifically examining this connection. Currently study that showed association between Empathy from healthcare workers and Patient Safety Culture in hospital was also limited. The gap highlights the need for comprehensive studies

that investigate how deficiencies in empathy, whether on an individual or organizational level, may contribute to patient safety culture.

The position of this research is to propose a research model that has been modified research model, where Empathy mediated by PSC and PRNI is assessed for its relationship to the formation of perceived risk of infection control and the dependent variable Infection control performance in hospitals. Using mediation variables like PSC and PRNI helps researchers and healthcare practitioners better understand the mechanisms through which empathy influences infection control performance. This approach can make a new contribution, to find out how Empathy can be beneficial through safety culture in improving patient-oriented infection control performance in private hospital services. The mediating construct of PSC is a multidimensional construct. Mediation analysis allows for a more precise examination of the sequential relationships between variables Empathy, PSC, PRNI and PONI. By incorporating PSC and PRNI as mediation variables, researchers can assess how empathy not only directly affects infection control performance but also indirectly influences it through its impact on these mediation variables. Understanding these nuances allows for the development of tailored strategies to improve infection control performance. For instance, interventions may differ depending on whether PSC or PRNI plays a more significant role.

Therefore, in contrast to other studies, this study highlights the need to examine the complex interplay between patient safety culture, empathy, perceived risk, and its ultimate impact on infection control performance outcomes in healthcare settings. This study examines the role where Empathy, PSC, perceived risk and infection control performance through measurement and dimensional

testing. Empathy will act as an independent variable by assessing the dimensions of affective and cognitive empathy. In this study, PSC considered as a high order construct (HOC) and its 12 PSC dimensions as a low order construct (LOC). Perceived risk of infection control also acted as a mediating variable. Performance of Nosocomial Infection Perceived Outcome as the dependent variable.

By testing the new model where Empathy, PSC, perceived risk and infection control performance are tested through its multidimensionality with a new statistical method with the analysis of Partial Least Square Structural Equation Modeling (PLS-SEM). PLS-SEM analysis introduced a new method that replaces repeated indicators, namely through the second stage of analysis, where at the second stage PSC will become a high order construct (HOC) and its dimensions will become a low order construct (LOC) as indicators. This model will be tested empirically with data from health workers from XYZ Hospital.

The results of the study will provide managerial input for the management of the private hospital. Hospitals incur significant costs when patients develop HAIs. HAIs significantly contribute to the prolongation of a patient's length of stay in the hospital, creating a cascade of challenges that ultimately worsen the hospital's revenue. Patients who contract HAIs often experience complications that necessitate extended and specialized treatment. Extended stays also contribute to bed occupancy challenges, limiting the hospital's capacity to admit new patient and leading to missed revenue opportunities. Extended hospitalizations translate to higher operational costs, including expenses related to additional nursing hours, specialized treatments, and heightened infection control measures. These increased

costs, coupled with the loss of potential revenue from new admissions, create a financial burden for the hospital.

The impact of HAIs on revenue is often more significant for private hospitals compared to public hospitals. Private hospitals are profit-driven entities that heavily rely on patient volume and efficient bed utilization for revenue. HAIs can lead to increased length of stay, reduced bed turnover, and cancelled elective procedures, directly impacting the hospital's revenue stream. Private hospitals face a higher risk of legal action and damage to their reputation in case of HAIs. Patients in private settings may be more likely to pursue legal recourse for perceived lapses in infection control. Negative publicity and legal consequences can have lasting effects on patient trust and, consequently, revenue. Moreover, in competitive healthcare markets, private hospitals face the risk of losing patients to competitors if their reputation for infection control is compromised.

By enhancing infection control practices through interventions that target empathy, patient safety culture, and perceived infection risk, hospitals can potentially reduce the financial burden associated with treating HAIs. Positive patient experiences, resulting from improved patient safety culture and infection control practices, can contribute to a hospital's reputation as a provider of high-quality care. A strong reputation can attract more patients and support long-term financial sustainability. Hospitals with a reputation for excellent patient safety culture and infection control measures have a competitive advantage in the healthcare market. Patients often choose healthcare providers based on their perception of safety and quality. Improved infection control practices and a strong safety culture can reduce the risk of adverse events and malpractice claims. Hospital

management can potentially reduce legal expenses and liabilities associated with patient complaints and litigation.

1.2 Research Question

From the description of the variables that will be used and analyzed in this research model, a research question can be formulated as follows:

1. Does empathy has positive relation to Patient Safety Culture?
2. Does empathy has positive relation on Perceived Risk Infection Control?
3. Does Patient Safety Culture has positive relation on Perceived Risk Infection Control?
4. Does Patient Safety Culture mediated toward Empathy has positive relation on Perceived Risk Infection Control?
5. Does Perceived Risk Infection Control has positive relation on Infection control performance?
6. Does Patient Safety Culture has positive relation on Infection control performance?
7. Does Perceived Risk Infection Control mediated toward Empathy has positive relation on Infection control performance?
8. Does Patient Safety Culture mediated toward Empathy has positive relation on Perceived Risk Infection Control?
9. Does Patient Safety Culture and Perceived Risk Infection Control mediated toward Empathy has positive relation on Infection control performance?

1.3. Research Objectives

From the description of the variables that will be used and analyzed in this research model, a research objectives can be formulated as follows:

1. The objective of this study is to examine the extent to which empathy influences and has a positive relation with Patient Safety Culture
2. This research endeavors to investigate the relationship between empathy and Perceived Risk of Nosocomial Infections
3. The goal of this study is to explore and quantify the positive relationship between Patient Safety Culture and Perceived Risk of Nosocomial Infections
4. This research seeks to evaluate the mediating role of Patient Safety Culture in the relationship between empathy and Perceived Risk of Nosocomial Infections
5. This study is to assess the positive relationship between Perceived Risk of Nosocomial Infections and Perceived Outcome of Nosocomial Infections
6. This research strives to investigate the direct and positive relationship between Patient Safety Culture and Perceived Outcome of Nosocomial Infections
7. This study is to explore the mediating role of Perceived Risk of Nosocomial Infections in the relationship between empathy and Perceived Outcome of Nosocomial Infections
8. This research aims to investigate the mediating role of Patient Safety Culture in the relationship between empathy and Perceived Risk of Nosocomial Infections

9. This study is to explore the combined mediating roles of both Patient Safety Culture and Perceived Risk of Nosocomial Infections in the relationship between empathy and Perceived Outcome of Nosocomial Infections

1.4. Research Benefits

Benefits for Academics:

1. **Advancing Knowledge:** The research contributes to the academic understanding of the complex relationships between empathy, PSC, PRNI, and PONI in healthcare settings, adding depth to existing literature on patient safety and infection control.
2. **Theoretical Development:** It provides a basis for the development and refinement of theoretical frameworks related to patient safety culture, empathy, and infection control.
3. **Research Opportunities:** The findings may inspire further research inquiries and studies exploring similar relationships in diverse healthcare contexts and among different healthcare professionals.

Benefits for Practitioners:

1. **Cost Reduction:** Management can potentially reduce the financial burden associated with treating HAIs. Hospital management can develop targeted strategies to enhance empathy, safety culture, and infection control measures, aligning these efforts with cost reduction goals.
2. **Hospital Reputation and Competitive Advantage:** Hospitals with reputation for excellent patient safety culture and infection control measures have a

competitive advantage in the healthcare market. Patients often choose healthcare providers based on their perception of safety and quality.

3. **Reduced Legal Liability:** Improved infection control practices and a strong safety culture can reduce the risk of adverse events and malpractice claims. Hospital management can potentially reduce legal expenses and liabilities associated with patient complaints and litigation.

1.5. Systematic of Writing

CHAPTER 1 : Introduction

Contains writing explaining the background of the research, especially in XYZ hospital. Next is an explanation of the research topic and the reasons why this topic is relevant to be raised. Furthermore, the description of research questions based on the selected research variables, followed by research objectives, research benefits, and closed with an explanation of the systematics of writing.

CHAPTER 2 : Literature Review

Contains a review of the theoretical basis and concepts used in building the conceptual framework of the research, an explanation of the definition of variables and their measurements, as well as a review of previous empirical studies that are relevant to the topic and focus of this research. Furthermore, in this chapter, the development of research hypotheses sequentially based on references from previous research publications. At the end of this chapter there is a picture of the research model (conceptual framework) along with the hypotheses that will be tested empirically.

CHAPTER 3 : Research Methodology

Contain explanation of the paradigm, research object, explanation of research analysis units, the type of research used, measurement of research variables, population and determination of the number of samples, sampling techniques used, data collection methods, and description of the stages of the multivariate analysis method with PLS-SEM.

CHAPTER 4 : Research Result

Contains an explanation of the results of the analysis of research data processing starting from the respondent's profile, respondent behavior, followed by analysis of the description of research variables, inferential statistical analysis of research with the PLS-SEM method and discussion of the results.

CHAPTER 5 : Conclusion and Recommendation.

In this last chapter, conclusions are written that are obtained from the results of statistical analysis of research, in the form of hypothesis test results to answer research questions followed by an explanation of the relevant managerial implications, and closed with notes on limitations and suggestions for further research in the field of efforts to improve infection control performance through empathy and patient safety culture.