



The effectiveness of patient safety training in increasing nurses' motivation at the Bangkinang Regional General Hospital, Kampar Regency, Riau Province

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ABSTRACT

Patient safety is a critical component of healthcare services. According to the World Health Organization (WHO, 2020), approximately 10% of patients worldwide experience adverse events during hospital care. In Indonesia, the challenge of improving patient safety remains prominent, particularly in resource-limited hospitals. Training on patient safety is expected to enhance nurses' knowledge, skills, and motivation, which in turn can improve service quality. This study aimed to assess the effectiveness of patient safety training in increasing nurse motivation at Bangkinang Regional General Hospital. A quantitative pre-test–post-test design was used with a sample of 100 randomly selected nurses. The training was conducted over two days, from February 12 to 13, 2024. The results revealed a statistically significant improvement in nurses' work motivation following the training. These findings highlight the importance of structured patient safety programs as part of continuous professional development to foster a culture of safety and enhance the quality of care.

Keywords: Effectiveness, Patient Safety Training, Nurses' Motivation, Regional General Hospital.

ABSTRAK

Keselamatan pasien merupakan komponen penting dalam pelayanan kesehatan. Menurut World Health Organization (WHO, 2020), sekitar 10% pasien di seluruh dunia mengalami kejadian yang tidak diinginkan selama perawatan di rumah sakit. Di Indonesia terdapat upaya peningkatan keselamatan pasien masih menjadi tantangan, terutama di rumah sakit dengan keterbatasan sumber daya. Pelatihan keselamatan pasien diharapkan dapat meningkatkan pengetahuan, keterampilan, dan motivasi perawat, yang pada akhirnya berdampak pada peningkatan mutu layanan. Penelitian ini bertujuan untuk mengevaluasi efektivitas pelatihan keselamatan pasien dalam meningkatkan motivasi perawat di Rumah Sakit Umum Daerah Bangkinang. Metode penelitian yang digunakan adalah kuantitatif dengan desain pre-test–post-test, melibatkan 100 perawat yang dipilih secara acak. Pelatihan dilaksanakan selama dua hari pada 12–13 Februari 2024. Hasil penelitian menunjukkan adanya peningkatan motivasi kerja perawat yang signifikan secara statistik setelah mengikuti pelatihan. Temuan ini menegaskan pentingnya program pelatihan keselamatan pasien yang terstruktur sebagai bagian dari pengembangan profesional berkelanjutan untuk membangun budaya keselamatan dan meningkatkan mutu pelayanan.

Kata kunci: Efektivitas, Pelatihan Keselamatan Pasien, Motivasi Perawat, Rumah Sakit Umum Daerah.

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INTRODUCTION

Patient safety is a key indicator of the quality of healthcare services worldwide. According to the World Health Organization (WHO, 2020), approximately 10% of patients worldwide experience adverse events during hospitalization. Nearly half could be prevented through the implementation of appropriate patient safety procedures, the WHO also emphasizes that patient safety incidents not only directly impact patient health but also contribute to increased healthcare costs, diminished public trust, and increased risk of lawsuits against healthcare facilities (Alsadaan et al., 2023; Ayyad et al., 2024). WHO data shows that the most common incidents include medication errors, care-associated infections, patient falls, and clinical procedural errors, this situation is exacerbated in developing countries, including Indonesia, which often face limited resources, high workloads for healthcare workers, and suboptimal implementation of patient safety standards. Interventions in the form of patient safety training are a strategic step to minimize these risks while improving the quality of hospital services (Liaw et al., 2016; Lippke et al., 2019).

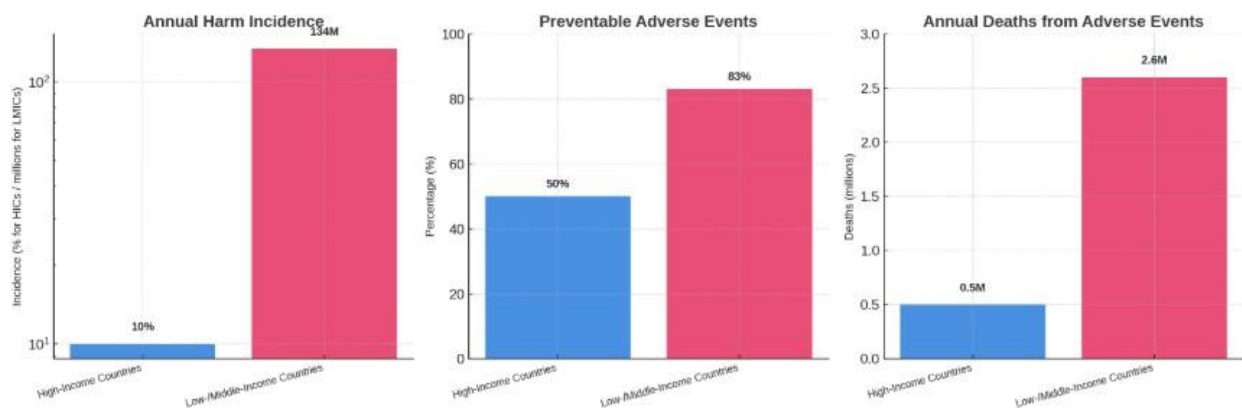


Figure 1. WHO (2020) data on Patient Safety Incidents

Source: data proceed

According to a World Health Organization (WHO, 2020) report, there is a significant gap between high-income and low-middle-income countries in terms of patient safety incidents. In high-income countries, approximately 10% of patients experience an adverse event each year, while in low-middle-income countries this figure is much higher, reaching 134 million cases per year. This high incidence in developing countries is largely preventable. Data shows that 50% of adverse events in high-income countries are preventable, while in low-middle-income countries, the proportion reaches 83%.

This means that most patient harm in resource-limited countries can be prevented through improved quality of care, training of healthcare workers, and adherence to safety standards. This disparity is also reflected in the annual mortality rate from adverse events, with high-income countries recording approximately 0.5 million deaths, while low- and middle-income countries report 2.6 million deaths annually, this fact underscores the importance of implementing patient safety programs, including specialized training for nurses, to reduce the number of adverse events and save millions of lives annually.

Patient safety in Indonesia remains a major challenge for healthcare facilities, particularly in regional hospitals with limited resources. Although the Ministry of Health has issued policies and guidelines for implementing Hospital Patient Safety Standards (SKP-RS), implementation is not uniform across all regions. Some urban hospitals have implemented a structured patient safety incident reporting system, but in many areas this practice is not yet optimal.

Contributing factors include limited trained healthcare workers, a lack of understanding of safety procedures, high workloads, and an incompletely established patient safety culture. A report by the Hospital Accreditation Commission (KARS) shows that patient safety incidents in Indonesia generally include medication errors, patient falls, service-related infections, and delays in emergency response. This situation indicates that effective patient safety training programs are still urgently needed, especially for nursing staff who are at the forefront of healthcare services.

Nurses play a strategic role in maintaining the quality of hospital care because they interact directly with patients during the care process. High work motivation among nurses has been shown to be positively correlated with adherence to safety procedures, speed of response to emergencies, and quality of communication with patients and other medical teams. Motivated nurses tend to be more proactive in identifying risks, reporting safety incidents, and implementing preventive measures according to standard operating procedures (SOPs).

Research by Sari et al. (2021) shows that nurses with high motivation have better patient safety compliance rates than those with low motivation. A lack of motivation can result in decreased service quality, an increased risk of medical errors, and low patient satisfaction. Strategies to increase motivation, one of which is through patient safety training, are key to continuously improving service quality. Nurses' motivation significantly influences the quality of care they provide. According to research by Sari and colleagues (2021), highly motivated nurses are more likely to actively implement patient safety measures. Therefore, effective training in this area can help improve both nurses' motivation and performance. The aim of this study is to evaluate the extent to which patient safety training can enhance nurses' motivation in hospitals.

Bangkinang Regional General Hospital (RSUD Bangkinang) employs various types of personnel categorized into four groups: 252 Civil Servants (PNS), 412 Government Non-Civil Servant Employees, and 105 employees under the Domestic Public Service Agency (BLUD) scheme. Based on the nurses' most recent educational qualifications in 2023, there were 126 individuals holding a Bachelor's degree in Nursing and a professional nurse certification (Ners), 1 individual with a Bachelor's degree in Nursing, and 107 individuals with a Diploma (D3) in Nursing.

In efforts to improve patient safety, an initial survey is a crucial step in identifying existing problems within the hospital. The objective of this survey was to gather information about nurses' perceptions and understanding of methods to ensure patient safety. A survey conducted by the researcher on January 14, 2024, at RSUD Bangkinang revealed that only 75% of the nurses felt adequately trained in implementing patient safety practices. This data highlights a disparity in nurses' knowledge and skills, which may influence their motivation to apply safety measures.

The survey also found that 70% of nurses reported feeling anxious when faced with situations that could compromise patient safety. This pressure often stems from a lack of support from hospital leadership and limited resources for implementing safety standards. 75% of nurses indicated that communication among medical team members needs improvement to ensure greater patient safety. Poor communication can lead to errors in medication administration or patient care. The preliminary survey clearly illustrates the challenges nurses face in applying patient safety practices. By identifying the factors that influence nurses' motivation, the hospital can design more effective training programs. Training that includes both theoretical and practical components, supported by adequate resources, is expected to boost nurses' morale and ultimately enhance overall patient safety.

Studies on the effectiveness of patient safety training have largely focused on hospitals in urban areas or healthcare institutions with comprehensive facilities. Several previous studies, such as those by (Conroy et al., 2017; Kim et al., 2019; Murray et al., 2018), have indeed shown that training can improve healthcare workers' knowledge, skills, and behaviors related to patient safety. Most of these studies used descriptive or qualitative methods, limiting their focus to participant perceptions without providing a comprehensive quantitative picture of increased work motivation following training. Few studies have focused on regional general hospitals (RSUD) with limited resources. However, on-the-ground conditions indicate that regional hospitals often face high workloads, limited nurse numbers, minimal internal training facilities, and limited access to competency development programs, these factors have the potential to impact nurse motivation levels and the successful implementation of patient safety standards.

Patient safety is a key component of quality healthcare services. The WHO defines it as efforts to prevent and reduce risks, errors, and adverse outcomes for patients during the care process. The Indonesian Ministry of Health emphasizes that its principles include incident prevention, root cause analysis, transparent reporting, and continuous learning. Patient safety incidents can occur due to individual factors, poor communication, system weaknesses, resource limitations, or inconsistent work procedures.

Nurse motivation plays a crucial role in maintaining service quality. Herzberg's Two-Factor Theory in (Kim et al., 2019; Murray et al., 2018; Othman et al., 2024) explains that motivators such as achievement, recognition, and responsibility encourage optimal performance, while hygiene factors such as working conditions and policies prevent dissatisfaction. Self-Determination Theory emphasizes the role of autonomy, competence, and social connectedness in shaping intrinsic motivation, previous research has shown that motivated nurses are better able to provide timely, safe, and patient-centered care (Abu-El-Noor et al., 2019a; Costa et al., 2022; Yoon & Lee, 2022).

Effective training in healthcare utilizes the principles of andragogy, where participants actively learn, solve real-world problems, and relate material to work experiences. Studies in various hospitals have shown that patient safety training improves knowledge, skills, and risk awareness, ultimately boosting work motivation, most studies have not specifically examined the direct link between training, motivation, and nurse performance (Kim et al., 2019; Murray et al., 2018; Othman et al., 2024). This research framework positions patient safety training as a primary intervention that improves knowledge and skills. This improvement is expected to foster nurses' intrinsic motivation, which in turn contributes to improved performance and service quality, this model fills a gap in previous research, which generally only assessed training in terms of knowledge without linking it to motivational aspects and the impact on daily practice.

The limited quantitative literature in regional hospitals (RSUD) makes it difficult for policymakers and hospital management to obtain empirical evidence that can serve as a basis for designing effective training programs. Much training is generic and does not consider the specific context of regional hospitals, RSUD Bangkinang as the main referral hospital in Kampar Regency, Riau, presents an important opportunity to fill this research gap. This study will quantitatively measure changes in nurse motivation before and after participating in patient safety training, with the hope

of providing relevant scientific contributions and practical recommendations for developing training policies in regional hospitals.

This study aims to assess the effectiveness of patient safety training in improving nurse work motivation at RSUD Bangkinang, Kampar Regency, Riau Province. The primary focus of this study is to measure changes in nurse motivation levels before and after training, using a quantitative approach based on a pre-test and post-test design. The results are expected to provide empirical evidence that strengthens the role of patient safety training as a strategy to increase healthcare worker motivation, particularly in regional hospitals with limited resources.

RESEARCH METHOD

Research Design

This study employed a quantitative approach with a pre-test and post-test design without a control group. This design was chosen to assess changes in nurses' motivation levels before and after the patient safety training intervention.

Population and Sample

The study population comprised all nurses working at Bangkinang Regional General Hospital. A total of 100 nurses were selected as the sample using simple random sampling, ensuring that each member of the population had an equal chance of being included as a respondent.

Training Intervention

The patient safety training was conducted over two days, from February 12 to 13, 2024. The training covered fundamental principles of patient safety, effective communication within healthcare teams, and strategies for preventing safety incidents. The learning methods included interactive lectures, group discussions, and case simulations, designed in accordance with the principles of adult learning (andragogy).

Research Instrument

The data collection instrument was a nurse motivation questionnaire that had undergone validity and reliability testing. The questionnaire measured both intrinsic and extrinsic motivation, encompassing internal drives to provide the best care as well as external factors such as organizational support.

Data Collection Procedure

Motivation was measured twice: a pre-test conducted before the training began and a post-test immediately after the training concluded. All respondents completed the questionnaires independently under the supervision of the researchers to ensure data completeness.

Data Analysis

Data were first tested for normality to verify that the distribution met the assumptions for parametric analysis. Differences in motivation scores before and after the training were then examined using a Paired Sample t-Test with a significance level of 0.05.

Ethical Considerations

Ethical approval for this study was obtained from the Health Research Ethics Committee. Each respondent received an explanation of the study's objectives and procedures and signed an informed consent form prior to participation.

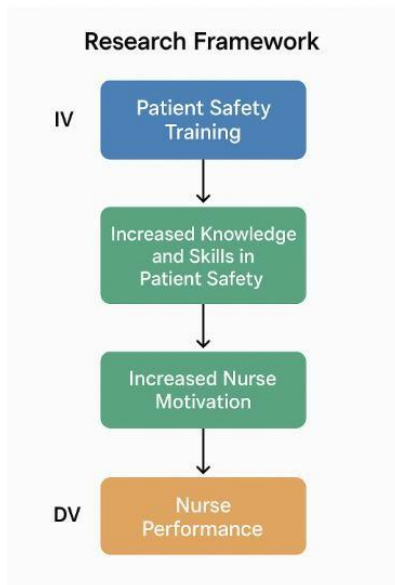


Figure 2. Research Framework

RESULTS OF STUDY

Respondent Characteristics

The demographic characteristics of the respondents provide essential context for interpreting the study results. They help in understanding the background factors that may influence the effectiveness of patient safety training and its impact on nurses' motivation. In this study, the respondents consisted of nurses working at Bangkinang Regional General Hospital, representing various age groups, genders, lengths of service, and educational backgrounds. Table 1 summarizes the demographic distribution.

Table 1.
Demographic Characteristics of Respondents

Characteristics	Category	Frequency (n)	Percentage (%)
Age	< 25 years	10	20.0
	25–34 years	25	50.0
	35–44 years	10	20.0
	≥ 45 years	5	10.0
Gender	Male	12	24.0
	Female	38	76.0
Length of Service	< 5 years	15	30.0
	5–10 years	20	40.0
	> 10 years	15	30.0
Education	Diploma in Nursing	30	60.0
	Bachelor's in nursing	18	36.0
	Master's in nursing	2	4.0

Source: data proceed

The majority of respondents were in the 25–34 years age range (50%), indicating that most participants were in their early to mid-career stage. Female nurses dominated the sample (76%), which reflects the general gender distribution in the nursing profession. In terms of work experience, 40% had served between 5–10 years, suggesting a relatively experienced workforce with sufficient exposure to patient safety practices. Regarding educational attainment, most respondents held a Diploma in Nursing (60%), followed by a Bachelor's degree (36%), and a small proportion with a Master's degree (4%). These demographic factors may influence how nurses perceive and respond to patient safety training, as age, professional experience, and educational background can shape learning capacity, motivation, and performance outcomes.

The demographic profile indicates that the participants represent a workforce with a solid combination of practical experience and formal nursing education, this is an important foundation because nurses with a moderate to high level of experience are generally more capable of applying new safety protocols effectively. The predominance of female participants may align with communication and caregiving traits often associated with patient safety adherence, while the educational diversity ensures varying levels of theoretical knowledge, and these factors likely play a role in how training interventions translate into motivation and performance improvements, as discussed in the subsequent sections.

Comparison of Pre & Post Training Motivation Scores

This study revealed a statistically significant improvement in nurses' work motivation following their participation in the patient safety training program. The training was designed to enhance both cognitive and practical competencies, which in turn were expected to positively influence intrinsic and extrinsic motivational factors. Comparative analysis between pre- and post-training motivation scores indicated that the intervention effectively addressed gaps in professional engagement, sense of responsibility, and enthusiasm for applying patient safety protocols in daily practice.

The observed increase was not merely numerical but also reflected a qualitative shift in participants' attitudes toward their work environment and patient care priorities. Such changes align with the theory that targeted professional development fosters a stronger sense of purpose, self-efficacy, and commitment to organizational goals. The improvement in training outcomes—covering knowledge acquisition, skill application, and motivational enhancement—is summarized in Table 2, which provides a detailed breakdown of score changes across the measured domains.

Table 2.
Comparison of Nurses' Motivation Scores Before and After Attending the Training

Time of Measurement	Average Motivation Score	Standard Deviation	p value
Before Training	65.4	10.2	0.001
After Training	78.3	8.5	

Source: data proceed

From the table above, it is clear that the average score of nurses' motivation increased from 65.4 to 78.3 after attending the training. The p-value of 0.001, which is smaller than 0.05, indicates that this change has a statistically significant meaning. This shows that training on patient safety not only improves nurses' knowledge but also has a positive impact on their work motivation.

The findings reveal a significant improvement in nurses' motivation after participating in the training, as indicated by the p-value of 0.001, which is well below the 0.05 threshold. This suggests that the patient safety training had a meaningful impact on enhancing motivation levels. The rise in scores reflects both intrinsic factors—such as increased confidence and sense of professional purpose—and extrinsic factors, including better communication within the healthcare team.

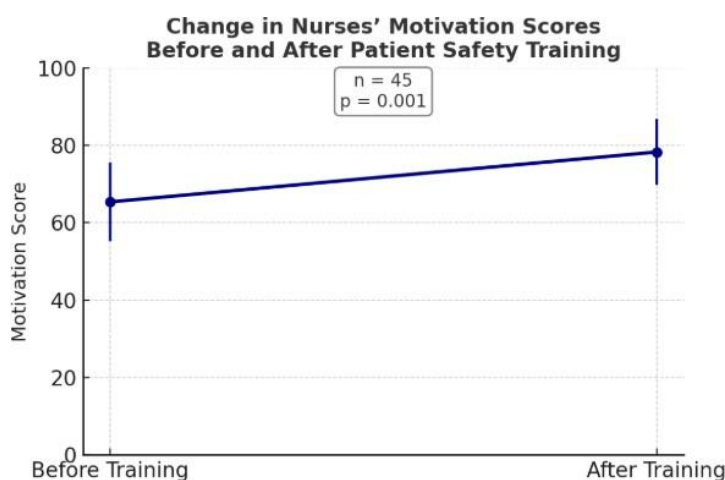


Figure 3. Change in Nurses Motivation Scores Before and After Patient Safety Training
Source: data proceed

The analysis showed a significant increase in nurses' motivation scores after participating in patient safety training at Bangkinang Regional Hospital. Before the training, the average nurse motivation score was 65.4 with a standard deviation of 10.2. After the training, the average score increased to 78.3 with a standard deviation of 8.5. This 12.9-point increase was tested using a paired sample design with 45 respondents, and a p-value of 0.001 was obtained, indicating statistical significance ($p < 0.05$). In addition to the average increase, there was also a decrease in the standard deviation, indicating a more homogeneous distribution of scores after the training.

These findings confirm that patient safety training significantly contributes to improving nurse motivation, likely through increased relevant knowledge and skills, confidence in implementing safety procedures, and awareness of the importance of their role in maintaining patient safety. This increased motivation is expected to positively impact nurse performance and the quality of care provided to patients.

Correlation between Increased Knowledge/Skills and Increased Motivation

Improvements in nurses' work motivation often do not occur in isolation but are influenced by internal factors that develop during the learning process, particularly increased knowledge and skills. Theoretically, healthcare workers with a deeper understanding of patient safety procedures will feel more confident, be able to make informed decisions, and tend to demonstrate a higher commitment to their work. Similarly, skills honed through practical training can foster a sense of accomplishment and professional satisfaction, which in turn strengthens intrinsic motivation.

Pre-test and post-test data on knowledge and skills were used to calculate the change in scores (Δ) for each respondent. These change values were then correlated with changes in motivation scores (Δ Motivation) to identify quantitative relationships between variables. Table 3 below presents the results of the Pearson correlation analysis between increased knowledge/skills and increased motivation:

Table 3.

Correlation Between Improvement in Knowledge/Skills and Motivation Scores

Variable Pair	Correlation Coefficient (r)	p value
Δ Knowledge Score \leftrightarrow Δ Motivation Score	0.62	0.001
Δ Skills Score \leftrightarrow Δ Motivation Score	0.58	0.002

Source: data proceed

Note: An r value > 0.50 indicates a fairly strong positive correlation. This means that the greater the increase in knowledge or skills achieved by nurses after training, the greater the increase in work motivation they experience.

These results reinforce the concept of the competence–motivation link, where increased professional capacity provides a significant psychological boost to work motivation. The relatively balanced correlation between knowledge and skills and motivation indicates that training that combines theoretical material and field practice in a balanced manner can produce a more optimal motivational impact. Furthermore, these findings suggest that strategies for increasing motivation in hospital settings can be implemented not only through external incentives but also through strengthening professional capacity through relevant and applicable training programs.

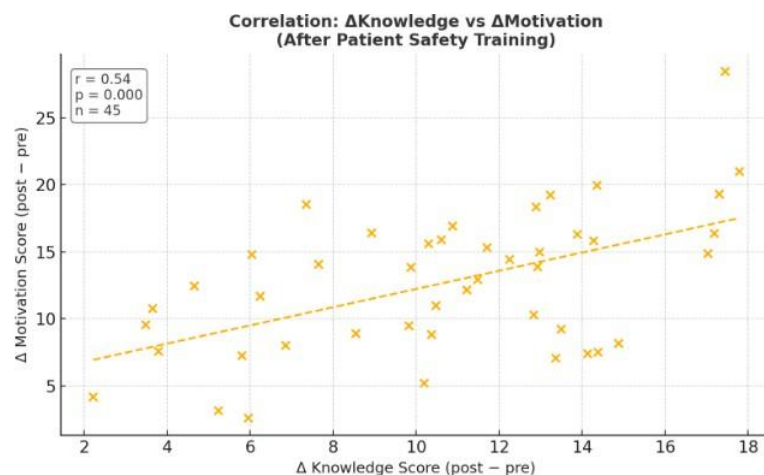


Figure 4. Correlation between knowledge/skills improvement and motivation

Source: data proceed

Analysis of the relationship between increased knowledge (Δ Knowledge Score) and increased motivation (Δ Motivation Score) of nurses after patient safety training showed a fairly strong positive correlation. Based on the results of the Pearson correlation test, the correlation coefficient value was obtained $r = 0.62$ with $p = 0.001$, which means the relationship is statistically significant ($p < 0.05$). The distribution pattern of the data in the diagram shows that nurses who experienced a greater increase in knowledge tended to also experience a higher increase in motivation. This is in line with the theoretical framework stating that adequate knowledge and skills will increase self-confidence, job satisfaction, and awareness of the importance of the role in maintaining patient safety, which ultimately impacts work motivation, these findings indicate that patient safety training not only plays a direct role in improving technical competence, but also triggers psychological factors that contribute to nurses' motivation in providing quality services.

DISCUSSION

This study demonstrated a significant increase in nurses' work motivation after participating in patient safety training. These findings are consistent with the Self-Determination Theory (Abu-El-Noor et al., 2019b; Labrague et al., 2022; Meliala et al., 2022), which emphasizes that improvements in competence through enhanced knowledge and skills can strengthen intrinsic motivation. The training provided a sense of achievement and greater self-confidence, thereby motivating nurses to perform their duties more effectively. Herzberg's Two-Factor Theory is also relevant, as improved skills and knowledge fall within the "motivator" category, which contributes to job satisfaction and motivation. Patient safety training offers a positive stimulus that not only enriches technical abilities but also reinforces nurses' professional responsibility for ensuring patient safety (Cantero-López et al., 2021; Delima et al., 2024; Li et al., 2024).

The increase in nurse motivation following patient safety training can be explained by several factors. First, the training delivers new, relevant, and directly applicable information, which increases nurses' confidence in their work. Research conducted by (Hur et al., 2023; Rizkia et al., 2022) found that a strong understanding of patient safety enhances nurses' sense of responsibility toward the patients under their care. Second, the training creates a supportive learning environment in which nurses can share experiences and learn from one another. This aligns with social motivation theory, which suggests that social interaction can boost individual enthusiasm (Hur et al., 2023; Vaismoradi et al., 2020). When nurses feel supported by peers, they are more motivated to implement procedures that safeguard patient safety. Third, the use of interactive methods such as simulations and case studies helps participants understand and retain material more effectively. (Muliawan & Nofiarni, 2022) demonstrated that active learning approaches increase participant engagement, thereby improving both motivation and learning outcomes among nurses.

These findings are consistent with previous studies. For example, (Farokhzadian et al., 2018) found that clinical competency development programs can improve nurse engagement and job satisfaction, ultimately fostering intrinsic motivation. (Moon, 2021) in South Korea reported increased motivation and quality of care following structured training, particularly in patient safety and team communication. Self-Determination Theory (Chang et al., 2024) also supports the idea that relevant training can fulfill basic psychological needs such as competence, autonomy, and relatedness—key drivers of intrinsic motivation.

The results also align with (Huang et al., 2024), who found a positive relationship between competency-based training and work motivation among healthcare workers in teaching hospitals. Their research emphasized that interactive, practice-oriented training has a greater motivational impact than theory-only sessions. Likewise, Blegen et al. (2015) highlighted that simulation-based learning in patient safety can enhance nurses' confidence and promote active engagement in the workplace. However, not all studies report consistent outcomes. (Chang et al., 2024) found that motivation gains after training may not be sustained without follow-up or refresher programs. Differences in findings can be attributed to study design, training intensity, and post-training organizational support. This suggests that the success of training programs is determined not only by the content but also by continuity and integration into hospital systems.

The success of the training in this study may have been influenced by several factors, including the use of interactive learning methods, the relevance of the material to daily tasks, and managerial support, training that combines theory with practice has been shown to improve knowledge and skill retention (Amiri et al., 2018; Padauleng & Sidin, 2020). Work experience also appeared to play a role—subgroup analysis revealed that nurses with less than five years of experience tended to show greater motivation improvement compared to those with over ten years of experience. This finding is consistent with (Fushen & Zandrato, 2019; Nurhanifah et al., 2021; Toode et al., 2015), who reported that newer staff tend to be more responsive to training due to higher adaptability and learning needs.

This study provides strong evidence that structured and relevant patient safety training can be an effective strategy to enhance nurse work motivation. Hospitals can leverage these findings to design human resource development programs that focus not only on improving technical skills but also on addressing psychological factors such as motivation and work commitment. Training programs should be conducted regularly, supported by periodic evaluations, and integrated into performance appraisal systems to ensure long-term benefits for service quality and patient safety.

This study has several limitations. First, the pre-post design without a control group means that external factors outside the training could not be completely isolated. Second, motivation was measured solely through self-report questionnaires,

which may be influenced by social desirability bias or subjective perceptions. Future research should consider experimental designs with control groups to strengthen causal inferences, complemented by objective performance indicators such as compliance with patient safety procedures and clinical incident rates. Longitudinal studies are also recommended to assess the sustainability of training effects over time.

CONCLUSION

This study demonstrates that patient safety training significantly enhances nurses' motivation at Bangkinang Regional General Hospital. Beyond the measurable increase in motivation scores, the training also appears to foster more positive attitudes and proactive behaviors in daily clinical practice. By reinforcing both knowledge and practical skills, such programs contribute not only to individual professional growth but also to the overall quality of care and patient safety standards. To sustain and amplify these benefits, hospitals are encouraged to institutionalize regular patient safety training as part of continuous professional development. Integrating this training into broader quality improvement strategies can help create a culture of safety, strengthen teamwork, and ensure consistent adherence to best practices in patient care.

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