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Nurses' Work Motivation, Head Nurse Leadership Style, and Patient Safety Among Staff Nurses

Ernawati[1*], Hamka[1], Kamriana[1], Suriani Bahrun[1], Cristian Ardiansah[1], Yuliana Awalia[1]
[1]STIKES Tanawali Takalar, Indonesia
[2]Universitas Megarezky Makassar, Indonesia

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ABSTRACT

Patient safety remains a global healthcare priority because preventable adverse events continue to occur despite ongoing quality improvement efforts. This study aimed to determine the relationship between nurses' work motivation, head nurse leadership style, and patient safety practices among staff nurses at Maryam Citra Medika Hospital, Takalar. This cross-sectional study was conducted among 50 staff nurses using a total sampling technique. Most respondents were female (86.0%), aged ≤30 years (58.0%), had 1–4 years of work experience (62.0%), and all had previously participated in patient safety training. Data were collected using the Hospital Survey on Patient Safety Culture (HSOPSC) Version 2, a work motivation questionnaire, and a head nurse leadership questionnaire. Fisher's Exact Test was used to examine the associations between variables. Good work motivation was reported by 41 respondents (82.0%), while positive head nurse leadership and good patient safety practices were each reported by 44 respondents (88.0%). Work motivation was significantly associated with patient safety practices (Fisher's Exact Test, p = 0.043), with nurses who had good work motivation being 5.76 times more likely to demonstrate good patient safety practices (OR = 5.76; 95% CI: 1.15–28.92). Head nurse leadership was also significantly associated with patient safety practices (p = 0.007), with nurses perceiving good leadership having 15.60 times higher odds of demonstrating good patient safety practices (OR = 15.60; 95% CI: 2.25–108.12)

1. INTRODUCTION

Patient safety has become one of the primary indicators of healthcare quality and an essential component in improving hospital services. The World Health Organization (WHO) estimates that approximately one in ten patients experiences harm during healthcare delivery, and nearly half of these incidents are preventable. Patient safety incidents, including medication errors, patient falls, healthcare-associated infections, diagnostic errors, and ineffective communication, contribute to increased morbidity, mortality, prolonged hospitalization, and healthcare costs. Therefore, improving patient safety has become a global priority through the implementation of the Global Patient Safety Action Plan 2021–2030, which emphasizes the development of a strong patient safety culture, effective leadership, and competent healthcare professionals (World Health Organization, 2021)

Nurses are the largest professional workforce in hospitals and provide continuous patient care throughout the twenty-four-hour service cycle (Astriana et al., 2025). Their responsibilities include patient identification, medication administration, infection prevention, communication among healthcare professionals, clinical monitoring, and reporting patient safety incidents. Consequently, nurses have a central role in ensuring patient safety, and the quality of patient safety implementation is closely related to both individual and organizational factors that influence nursing performance (World Health Organization, 2021).

One of the individual factors influencing nursing performance is work motivation. Herzberg's Two-Factor Theory explains that employee motivation is influenced by intrinsic factors, including achievement, recognition, responsibility, and opportunities for self-

*Corresponding author
Ernawati, Email:nserna@stikestanawali.ac,id

development, as well as extrinsic factors such as supervision, organizational policies, interpersonal relationships, and working conditions (Herzberg, 2003). Nurses with higher work motivation tend to demonstrate greater commitment to patient safety procedures, actively participate in quality improvement activities, comply with standard operating procedures, and report patient safety incidents more consistently (Mutfii et al., 2022). Previous studies have also shown that work motivation positively influences nurses' performance and the implementation of patient safety practices (Padauleng, Sidin & Ansariadi, 2020; Rizkia *et al.*, 2022).

Besides work motivation, leadership is another important organizational factor affecting patient safety implementation. Head nurses are responsible for supervising nursing care, coordinating clinical services, facilitating communication, and creating a supportive work environment. According to Transformational Leadership Theory, effective leaders inspire, motivate, empower, and support staff members to achieve organizational goals while promoting innovation and continuous quality improvement (Bass & Avolio, 1994). Evidence suggests that transformational leadership contributes to stronger patient safety culture by improving teamwork, communication openness, organizational learning, and nurses' motivation (Althobaiti, 2025; Permatasari, Indrawati & Ramadhan, 2025).

Several previous studies have demonstrated significant associations between work motivation, leadership, and patient safety implementation. Padauleng, Sidin and Ansariadi (2020) reported that leadership style and nurses' work motivation were significantly associated with the implementation of patient safety culture among hospital nurses. Similarly, Rizkia *et al.* (2022) found that transformational leadership positively affected patient safety through increased nurses' work motivation. However, findings from previous studies remain inconsistent because organizational culture, workload, staffing adequacy, hospital characteristics, and leadership practices differ across healthcare settings. These inconsistencies indicate that further investigation is needed to understand how organizational factors influence patient safety implementation in different hospital contexts.

Maryam Citra Medika Hospital in Takalar has established a Quality Committee to implement policies aimed at enhancing quality and patient safety. Nevertheless, patient safety incidents continue to be reported annually. Hospital data indicates 51 reported patient safety incidents in 2023 and 15 "no-harm incidents" (KTC) in 2024. These figures highlight the need to further strengthen patient safety efforts through human resource management specifically by boosting nurses' work motivation and optimizing the leadership of ward heads. The situation demonstrates that the implementation of patient safety measures requires reinforcement by addressing both individual and organizational factors, particularly work motivation and ward head leadership.

Although many studies have investigated patient safety culture, limited evidence has simultaneously examined the influence of nurses' work motivation and head nurse leadership on patient safety practices among staff nurses in private hospitals in Indonesia. This study therefore offers novelty by examining these two organizational factors together within the context of a private hospital. The findings are expected to contribute to the development of evidence-based managerial strategies to improve patient safety implementation. Therefore, this study aimed to determine the relationship between nurses' work motivation, head nurse leadership style, and patient safety practices among staff nurses at Maryam Citra Medika Hospital, Takalar.

2. METHOD

This quantitative study employed an analytical observational design with a cross-sectional approach to examine the relationship between nurses' work motivation, head nurse leadership style, and patient safety practices. The study was conducted at Maryam Citra Medika Hospital, Takalar, South Sulawesi, Indonesia, from September to Oktober 2025. The study population consisted of all staff nurses working in inpatient units at Maryam Citra Medika Hospital. Because the number of eligible nurses was relatively small, a total sampling technique was applied, resulting in a final sample of 50 staff nurses who met the inclusion criteria. The inclusion criteria were registered nurses providing direct patient care, having worked for at least six months, and

being willing to participate in the study. Nurses on leave or assigned to administrative duties during the data collection period were excluded.

Data were collected using a structured self-administered questionnaire consisting of four sections. The first section collected respondents' demographic characteristics, including age, sex, educational level, length of employment, and participation in patient safety training. The second section assessed patient safety practices using the Hospital Survey on Patient Safety Culture (HSOPSC) Version 2.0, developed by the Agency for Healthcare Research and Quality (AHRQ). The instrument has been widely used to evaluate patient safety culture in healthcare settings. The third section measured nurses' work motivation using a structured questionnaire developed according to Herzberg's Two-Factor Theory, covering intrinsic and extrinsic motivational factors. The fourth section assessed head nurse leadership style using a structured questionnaire based on transformational leadership dimensions. All questionnaire items used a Likert scale. The questionnaires used a three-point Likert scale (0 = disagree, 1 = less agree, and 2 = agree). The total score for each variable was obtained by summing the responses to all questionnaire items. Subsequently, the median score of each variable, calculated from the respondents' total scores, was used as the cut-off point for categorization. Work motivation was classified as good (≥12) and poor (<12), head nurse leadership as good (≥5) and poor (<5), and patient safety practices as good (≥11) and poor (<11).

The HSOPSC Version 2.0 is a standardized instrument developed by the Agency for Healthcare Research and Quality (AHRQ) and has been extensively used in patient safety research. Before data collection, all questionnaires were reviewed by experts to ensure content suitability for the study context. After obtaining permission from the hospital management, eligible nurses were informed about the study objectives and procedures. Written informed consent was obtained before participation. Respondents completed the questionnaires independently during the study period, and completed questionnaires were checked for completeness before analysis.

Descriptive statistics were used to summarize respondents' characteristics and study variables. The total score for each study variable was calculated by summing all questionnaire item scores. Each variable was then categorized into good and poor groups using the median score obtained from the distribution of respondents' total scores. Bivariate analysis was performed using Fisher's Exact Test because the assumptions for Pearson's Chi-square test were not fully met due to expected cell counts of less than five. Statistical significance was established at $p < 0.05$. Permission to conduct the study was obtained from the Research and Community Service Institute (LPPM), STIKES Tanawali Takalar, under Research Permit Number 0.336.1/STIKES-TPT/X/2025, and from the management of Maryam Citra Medika Hospital. Participation was voluntary, written informed consent was obtained from all respondents, and confidentiality and anonymity were maintained throughout the study.

3. RESULT AND DISCUSSION

Result

Characteristics of Respondents

A total of 50 staff nurses participated in this study. As presented in Table I, most respondents were aged ≤30 years (58.0%), while 42.0% were aged >30 years. Female nurses constituted the majority of respondents (86.0%), whereas male nurses accounted for 14.0%. Based on educational level, respondents were equally distributed between Diploma (D3) and Bachelor of Nursing with Professional Nurse (S1 Ners), each representing 50.0% of the sample. Most respondents had worked for 1–4 years (62.0%), while 38.0% had worked for 5–8 years. All respondents (100%) had previously attended patient safety training. Detailed respondent characteristics are presented in Table 1.

Table 1. Demographic Characteristics of the Respondents (n = 50)

Characteristics	n	%
Age (years)		
≤ 30 tahun	29	58,0

> 30 tahun	21	42,0
	50	100
Sex		
Male	7	14,0
Female	43	86,0
	50	100
Educational level		
Diploma (D3)	25	50,0
Sarjana (S1 Ners)	25	50,0
	50	100
Length of employment		
1 – 4 tahun	31	62,0
5 – 8 tahun	19	38,0
	50	100
Patient safety training		
Tidak pernah	0	0
Pernah	50	100
	50	100

Source: Primary Data (2025).

The majority of respondents demonstrated good work motivation (82.0%), perceived good head nurse leadership (88.0%), and reported good patient safety practices.The distribution of these variables is presented in Table 2.

Table 2. Distribution of Work Motivation, Head Nurse Leadership Style, and Patient Safety Practices

Variable	Category	n	%
Work motivation	Good	41	82,0
	Poor	9	18,0
Head nurse leadership	Good	44	88,0
	Poor	6	12,0
Patient safety practices	Good	41	82,0
	Poor	9	18,0

Source: Primary Data (2025).

Relationship Between Work Motivation and Patient Safety Practices

Among nurses with poor work motivation, 44.4% demonstrated poor patient safety practices, whereas 87.8% of nurses with good work motivation demonstrated good patient safety practices. Fisher's Exact Test indicated a statistically significant association between work motivation and patient safety practices (p = 0.043). Nurses with good work motivation had 5.76 times higher odds of demonstrating good patient safety practices than those with poor work motivation (OR = 5.76; 95% CI: 1.15–28.92). The Phi coefficient was 0.322, indicating a moderate association. The detailed analysis is presented in Table 3.

Table 3. Relationship Between Work Motivation and Patient Safety Practices

Work Motivation	Poor Patient Safety n (%)	Good Patient Safety n (%)	OR (95% CI)	Phi	p-value
Poor	4 (44.4	5 (55.6)	Reference		
Good	5 (12.2)	36 (87.8)	5.76 (1.15–28.92)	0.322	0.043

Fisher's Exact Test

Relationship Between Head Nurse Leadership and Patient Safety Practices

Among nurses who perceived poor head nurse leadership, 66.7% demonstrated poor patient safety practices, whereas 88.6% of nurses who perceived good leadership demonstrated good patient safety practices. Fisher's Exact Test showed a statistically significant association between head nurse leadership and patient safety practices (p = 0.007). Nurses who perceived good head nurse leadership had 15.60 times higher odds of demonstrating good patient safety practices than those who perceived poor leadership (OR = 15.60; 95% CI: 2.25–108.12). The Phi coefficient was 0.468, indicating a moderate-to-strong association.The detailed analysis is presented in Table 4.

Table 4. Relationship Between Head Nurse Leadership and Patient Safety Practices

Head Nurse Leadership	Poor Patient Safety n (%)	Good Patient Safety n (%)	OR (95% CI)	Phi	p-value
Poor	4 (66.7)	2 (33.3)	Reference		
Good	5 (11.4)	39 (88.6)	15.60 (2.25–108.12)	0.468	0.007

Fisher's Exact Test

Discussion

Relationship Between Work Motivation and Patient Safety Practices

The present study demonstrated a statistically significant association between nurses' work motivation and patient safety practices (Fisher's Exact Test, p = 0.043). Nurses with good work motivation had 5.76 times higher odds of demonstrating good patient safety practices than those with poor work motivation (OR = 5.76; 95% CI: 1.15–28.92). Furthermore, the Phi coefficient of 0.322 indicated a moderate association, suggesting that work motivation is not only statistically significant but also has practical importance in supporting patient safety implementation.

These findings support Herzberg's Two-Factor Theory, which explains that employee performance is influenced by intrinsic factors, including achievement, recognition, responsibility, and opportunities for self-development, as well as extrinsic factors such as supervision, organizational policies, interpersonal relationships, and working conditions. Nurses with higher work motivation are generally more committed to complying with standard operating procedures, participating in patient safety initiatives, and maintaining safe clinical practices.

The present findings are consistent with those reported by Padauleng, Sidin, and Ansariadi (2020), who found that work motivation was significantly associated with patient safety culture among hospital nurses. Similarly, Rizkia et al. (2022) reported that motivated nurses demonstrated better adherence to patient safety procedures through improved work performance and professional commitment. The consistency between these studies suggests that motivation is an important organizational resource that encourages nurses to consistently apply patient safety principles in clinical practice. Despite the significant association, the moderate effect size indicates that work motivation alone is insufficient to explain variations in patient safety practices. Patient safety implementation is a multidimensional process that is also influenced by organizational culture, workload, staffing adequacy, communication, teamwork, supervision, and leadership. Therefore, strategies to improve nurses' motivation should be integrated with broader organizational interventions to achieve sustainable improvements in patient safety.

The findings are particularly relevant for Maryam Citra Medika Hospital because all respondents had previously participated in patient safety training, yet differences in patient safety practices remained. This suggests that training alone may not be sufficient to ensure consistent implementation of patient safety practices. Continuous motivation through recognition programs, supportive supervision, career development opportunities, and constructive feedback may help translate knowledge gained from training into daily clinical practice.

Relationship Between Head Nurse Leadership and Patient Safety Practices

This study also demonstrated a statistically significant association between head nurse leadership and patient safety practices (Fisher's Exact Test, p = 0.007). Nurses who perceived good head nurse leadership had 15.60 times higher odds of demonstrating good patient safety practices than those who perceived poor leadership (OR = 15.60; 95% CI: 2.25–108.12). In addition, the Phi coefficient of 0.468 indicated a moderate-to-strong association, suggesting that leadership has considerable practical importance in promoting patient safety practices.

These findings are consistent with Transformational Leadership Theory, which emphasizes that leaders inspire, motivate, and empower staff members to achieve organizational goals. Effective head nurse leadership fosters open communication, teamwork, supportive supervision, and continuous learning, thereby creating a positive work environment that encourages nurses to comply with patient safety standards.

The findings are in agreement with those reported by Padauleng, Sidin, and Ansariadi (2020), who identified leadership style as an important determinant of patient safety culture. Likewise, Permatasari, Indrawati, and Ramadhan (2025) found that transformational leadership strengthened patient safety culture by improving communication and staff engagement. Furthermore, Althobaiti (2025), in a systematic review, concluded that transformational leadership enhances teamwork, communication openness, organizational learning, and staff commitment, all of which contribute to improved patient safety.

Compared with work motivation, head nurse leadership demonstrated a larger effect size, as reflected by the higher Odds Ratio and Phi coefficient. This finding suggests that leadership may have a greater practical influence on patient safety practices in the study setting. However, because this study employed a cross-sectional design, these findings should be interpreted as associations rather than evidence of causality. Longitudinal or intervention studies are needed to determine whether improvements in leadership directly lead to better patient safety outcomes. From a managerial perspective, these findings indicate that strengthening leadership competencies among head nurses should become a strategic priority. Leadership development programs focusing on transformational leadership, effective communication, supportive supervision, coaching, and constructive feedback may enhance nurses' compliance with patient safety standards and contribute to a stronger patient safety culture.

Study Contribution and Implications

This study provides additional evidence regarding organizational factors associated with patient safety practices among staff nurses in a private hospital in Indonesia. Unlike many previous studies that examined work motivation or leadership separately, the present study evaluated both variables simultaneously, allowing a more comprehensive understanding of their relative contributions to patient safety practices. The findings indicate that both factors are significantly associated with patient safety implementation, with leadership demonstrating a stronger practical association than work motivation.

These findings may assist hospital managers in designing evidence-based strategies to improve patient safety. Such strategies include strengthening nurses' work motivation through recognition and professional development programs while simultaneously enhancing leadership competencies among head nurses to promote a positive safety culture and improve the quality of nursing care. This study has several strengths. It simultaneously examined work motivation and head nurse leadership as organizational factors associated with patient safety practices using standardized analytical procedures. Additionally, the study reported both statistical significance and effect size, enabling a more comprehensive interpretation of the findings.

However, several limitations should be acknowledged. First, the cross-sectional design limits causal inference between the study variables. Second, the study was conducted in a single private hospital with a relatively small sample size, which may limit the generalizability of the findings. Third, data were collected using self-administered questionnaires, which may be subject to response bias and social desirability bias.

4. CONCLUSION

This study demonstrated that nurses' work motivation and head nurse leadership were significantly associated with patient safety practices among staff nurses at Maryam Citra Medika Hospital, with head nurse leadership showing a stronger practical association than work motivation. These findings highlight the importance of organizational factors in supporting the implementation of patient safety and provide evidence that strengthening nurses' motivation alongside enhancing head nurse leadership competencies may contribute to improving patient safety practices. The findings have practical implications for hospital management in developing strategies such as recognition and professional development programs for nurses, structured leadership development for head nurses, supportive supervision, reinforcement of incident reporting systems, and regular evaluation of patient safety implementation to strengthen the organizational patient safety culture. Because this study was conducted using a cross-sectional design in a single hospital with a relatively small sample, the findings should be interpreted within these limitations. Future research is recommended to involve multicenter settings with larger sample sizes, employ longitudinal or prospective designs, and examine additional factors such as workload, patient safety culture, teamwork, communication, staffing adequacy, and organizational support to provide a more comprehensive understanding of factors associated with patient safety practices.

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