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Transformational leadership and patient safety in hospital nursing practice: A scoping review

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Abstract

Background: Patient safety is a key component of healthcare quality and remains a global priority. Nurses play a central role in maintaining patient safety, and leadership is recognized as an important organizational factor influencing safety outcomes. Transformational leadership has been widely applied in nursing; however, evidence linking it directly to patient safety outcomes remains fragmented.

Purpose: To map and synthesize evidence on the role of transformational leadership in influencing patient safety outcomes in hospital nursing practice.

Method: This scoping review followed the Joanna Briggs Institute (JBI) methodology and PRISMA-ScR guidelines. Literature searches were conducted in PubMed, MEDLINE with Full Text (EBSCO), and ScienceDirect for studies published between 2020 and 2025. The PCC framework was used as the basis for formulating the research questions and selecting articles. Studies examining transformational leadership and patient safety outcomes among hospital nurses were included. Data were extracted and analyzed using narrative thematic synthesis.

Results: Four studies met the inclusion criteria. Four main themes were identified: transformational leadership as a foundation for patient safety culture, indirect influence through psychosocial and work environment factors, impact on nurses' safety practices and reporting behaviors, and contextual and organizational influences. All studies reported positive associations between transformational leadership and patient safety outcomes.

Conclusion: Transformational leadership supports patient safety by promoting a positive safety culture, improving safety practices, and enhancing workforce well-being. Further longitudinal and intervention studies are needed to strengthen causal evidence and guide leadership development.

Keywords: Hospital Nursing; Nursing Leadership; Patient Safety; Safety Culture; Transformational Leadership.

INTRODUCTION

Patient safety is a fundamental component of healthcare quality and remains a global priority in healthcare systems worldwide. Ensuring patient safety requires effective organizational structures, competent healthcare professionals, and supportive leadership that promotes safe care delivery and minimizes adverse events (Nurmeksela, Mikkonen, Kinnunen, & Kvist, 2021; Ystaas, Nikitara, Ghobrial, Latzourakis, Polychronis, & Constantinou, 2023). Nurses play a

central role in maintaining patient safety because they provide continuous patient care, monitor clinical conditions, and implement safety protocols. Their performance and engagement significantly influence patient outcomes and quality of care (Alanazi, Alshamlani, & Baker, 2023; Labrague, 2024).

Leadership has been identified as a critical organizational factor influencing nursing performance, work environment, and patient safety outcomes. Nurse

leaders shape safety culture, facilitate communication, and support staff development, which contribute to improved clinical outcomes and organizational performance (Alqahtani, Alharbi, Alherz, Alqasir, Alsufayan, Aldosari, & Alzubidi, 2022; Fischer, 2022). Effective leadership promotes teamwork, enhances communication, and strengthens accountability, which are essential for preventing patient safety incidents and ensuring high-quality care (Castillo, Padilla, & Hernández, 2021; Qtait, 2023).

Among various leadership styles, transformational leadership has received considerable attention in nursing due to its positive influence on workforce and organizational outcomes. Transformational leadership is characterized by inspirational motivation, individualized consideration, intellectual stimulation, and idealized influence, which encourage professional development and staff empowerment (Bass & Riggio, 2006). This leadership style enhances nurses' motivation, engagement, and performance, contributing to improved patient care quality and safety outcomes (Ystaas et al., 2023; Boamah, Laschinger, Wong, & Clarke, 2018).

Previous studies have shown that transformational leadership is associated with improved patient safety culture, reduced adverse patient events, and enhanced nurse performance. Transformational leaders foster supportive work environments, promote psychological empowerment, and improve teamwork, which indirectly contribute to better patient safety outcomes (Tsapnidou, Kelesi, Rovithis, Katharakis, Gerogianni, Dafogianni, & Stavropoulou, 2024; Zhang, Han, Liang, Wang, Fan, Jia, & Jiang, 2025). In addition, transformational leadership has been linked to improved nurse engagement, job satisfaction, and organizational commitment, which are important factors in maintaining patient safety and quality of care (Alluhaybi, Usher, Durkin, & Wilson, 2024; Huang, Wang, Huang, Tang, Liu, & Chen, 2025).

Despite growing evidence supporting the importance of transformational leadership in nursing practice, the relationship between transformational leadership and patient safety outcomes remains incompletely synthesized. Existing studies vary in focus, context, and outcomes, and a comprehensive synthesis of current evidence is needed to clarify the role of transformational leadership in improving patient safety in hospital nursing practice (Abd-EL Aliem, & Abou Hashish, 2021; Haoyan, Waters, Jinling, Qionglings, & Sien, 2023). Therefore, a scoping review is appropriate to map existing evidence, identify key themes, and

highlight research gaps related to transformational leadership and patient safety outcomes (Peters, Marnie, Tricco, Pollock, Munn, Alexander, & Khalil, 2020; Campbell, Tricco, Munn, Pollock, Saran, Sutton, & Khalil, 2023). This scoping review aimed to map and synthesize existing evidence on the role of transformational leadership in influencing patient safety outcomes in hospital nursing practice.

RESEARCH METHOD

A scoping review design was employed to map and synthesize existing evidence on transformational leadership and patient safety outcomes in hospital nursing practice. The review was conducted following the methodological framework recommended by the Joanna Briggs Institute (JBI) and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). The PCC framework was used as the basis for formulating the research questions and selecting articles. Population = hospital nurses and nurse leaders; Concept = transformational leadership and its relationship to patient safety outcomes; Context = hospital nursing practice settings.

A comprehensive literature search was conducted in three electronic databases: PubMed, MEDLINE with Full Text (EBSCO), and ScienceDirect. Keywords and Medical Subject Headings (MeSH) were used in various combinations, including: ("head nurse" OR "nurse administrators" OR "charge nurses" OR "nurse leader" OR "supervisory nursing") AND ("leadership" OR "transformational leadership" OR "transformational leadership" OR "leadership style" OR "nursing leadership" OR "patient safety" OR "nurse-patient outcomes") AND ("hospitals" OR "hospital units" OR "hospital" OR "inpatient care units" OR "nursing work environment"). Reference lists of included studies were also screened to identify additional relevant articles.

Studies were included if they met the following criteria: involved nurses or nurse leaders working in hospital settings, examined transformational leadership, reported patient safety-related outcomes (e.g., patient safety culture, safety practices, incident reporting), used quantitative, qualitative, or mixed-methods designs, and were published in English between 2020 and 2025. Studies were excluded if they: were conducted outside hospital settings, did not focus on transformational leadership, did not include nurses or nurse leaders, or were editorials, commentaries, or conference abstracts.

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Data was extracted using a reviewer-developed extraction tool based on JBI guidance. Extracted data included study characteristics, participants, methods, leadership measures, patient safety outcomes, key findings, and limitations. Given the heterogeneity of study designs and outcomes, results were synthesized narratively using thematic analysis.

The initial database search yielded 1,013 records, comprising 798 records from MEDLINE with Full Text (EBSCO), 115 from ScienceDirect, 80 from PubMed, and 20 records identified through citation searching. Following the removal of 299 duplicate records, 714

unique studies remained and were screened based on titles and abstracts. During this screening phase, 659 records were excluded because they did not address transformational leadership, patient safety-related outcomes, or hospital-based nursing contexts.

Subsequently, 55 full-text articles were assessed for eligibility. Of these, 51 studies were excluded for the following reasons: not original research ($n = 2$), wrong concept ($n = 46$), wrong context ($n = 2$), and wrong population ($n = 1$). Ultimately, four studies met all inclusion criteria and were included in the final synthesis.

RESEARCH RESULTS

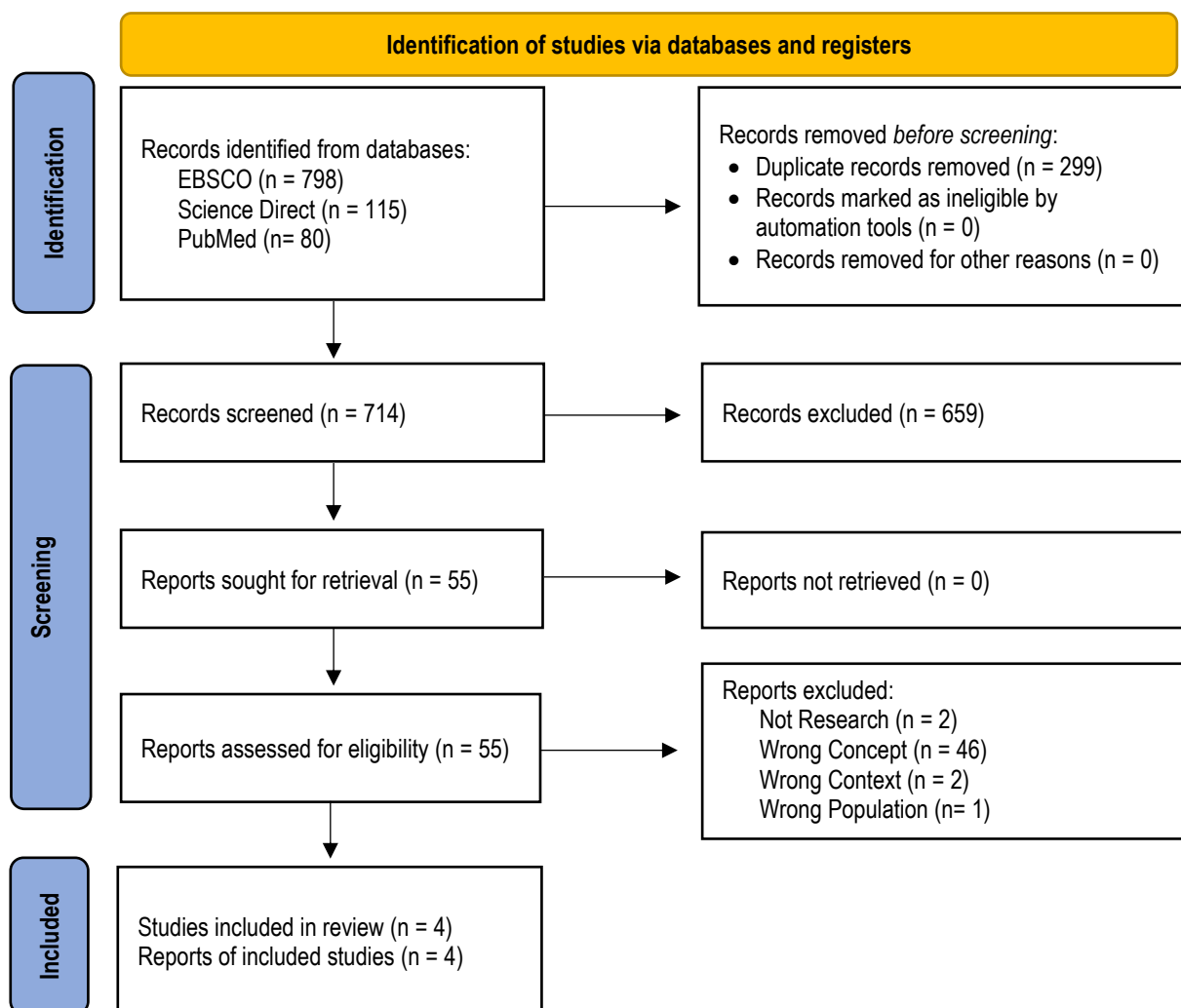


Figure 1. PRISMA flow diagram

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Table 1. Distribution of Included Studies Based on Transformational Leadership and Patient Safety Outcomes

Leadership Style	Positive Correlation	No Correlation	Negative Correlation	Total Number of Studies
Transformational	Hamdan et al., 2024; Labrague et al., 2022; Pamela et al., 2025; Wahyudyasa et al., 2023	–	–	4

Table 1 demonstrates that of the included studies, all four studies (4 out of 4) reported a positive association between transformational leadership and patient safety–related outcomes in hospital nursing settings. Across the included articles, transformational leadership demonstrated beneficial relationships with indicators of patient safety, including patient safety culture, nurses’ safety practices, and attitudes toward reporting patient safety incidents. No included study reported a non-significant or negative association between transformational leadership and patient safety outcomes.

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Table 2. Characteristics of the Studies

(Author, Year) (Country)	Purpose	Method & Sample	Results	Theme	Study Limitation
(Hamdan et al., 2024) (Saudi Arabia)	To investigate the association between transformational leadership and nurses' safety practices and examine the mediating role of patient safety culture.	Cross-sectional study; n = 200 nurses	Transformational leadership showed a positive association with nurses' safety practices. Patient safety culture significantly mediated the relationship between transformational leadership and safety practices.	1. Transformational leadership as a foundation for patient safety culture. 2. Influence on nurses' safety practices and reporting behaviors.	Cross-sectional design limits causal inference; single medical city setting; reliance on self-reported data.
(Labrague et al., 2022), (Multinational)	To examine the mediating role of transformational leadership in the relationship between nurse burnout and patient safety outcomes.	Cross-sectional correlational study; staff nurses (sample size varied across countries)	Transformational leadership indirectly improved patient safety outcomes by reducing burnout and fostering a supportive work environment.	1. Indirect effects through psychosocial and work environment mediators. 2. Contextual and organizational influences on leadership effectiveness.	Cross-sectional design; self-reported measures; variability across healthcare systems.
(Pamela et al., 2025) (Indonesia)	To examine the relationship between head nurses' transformational leadership style and nurses' attitudes toward reporting patient safety incidents.	Cross-sectional study; staff nurses (sample size not fully reported)	A positive association was found between transformational leadership and nurses' attitudes toward reporting patient safety incidents.	Influence on nurses' safety practices and reporting behaviors.	Incomplete reporting of sample size; cross-sectional design; potential response bias.
(Wahyudyasa et al., 2023) (Indonesia)	To examine the effects of transformational leadership and mentoring functions on patient safety culture.	Cross-sectional study; n = 57 nurses	Transformational leadership had a significant positive effect on patient safety culture, while mentoring function showed no significant effect.	1. Transformational leadership as a foundation for patient safety culture. 2. Contextual and organizational influences on leadership effectiveness.	Small sample size; single-site study; limited generalizability.

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Table 3. JBI's Risk Bias Assessment

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Overall
Hamdan, 2024	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Labrague, 2022	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Pamela, 2025	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Include
Wahyudyasa, 2023	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Table 3 shows that all included studies demonstrated acceptable methodological quality. The inclusion criteria were clearly defined across all studies. However, most studies relied on self-reported measures, and the validity of the measurement tools was often unclear. In addition, none of the studies explicitly identified or controlled for confounding variables. Despite these limitations, appropriate statistical analyses were applied in all studies.

DISCUSSION

Four major themes emerged regarding transformational leadership and patient safety in hospital nursing practice. Theme (1): Transformational Leadership and Patient Safety Culture. Transformational leadership fosters a positive safety culture through inspirational motivation, idealized influence, and individualized consideration. Two studies demonstrated that patient safety culture mediates the relationship between leadership and safety practices, highlighting cultural mechanisms as central to safety outcomes (Hamdan et al., 2024; Wahyudyasa et al., 2023). Theme (2): Indirect Effects via Psychosocial Mediators. Leadership influences patient safety indirectly through psychosocial and work environment factors. Supportive leadership reduces burnout and enhances psychological safety, which in turn improves patient safety outcomes (Labrague & Obeidat, 2022). Theme (3): Safety Practices and Reporting Behaviors. Transformational leadership was positively associated with nurses' adherence to safety practices and willingness to report incidents. Non-punitive, trust-based leadership styles encouraged proactive safety behaviors and improved reporting attitudes (Pamela et al., 2025; Hamdan et al., 2024). Theme (4): Contextual and Organizational Influences. Leadership effectiveness varied across hospital settings and cultural contexts. Differences in

healthcare systems, organizational culture, and institutional readiness shaped the extent to which transformational leadership translated into patient safety improvements (Wahyudyasa et al., 2023; Labrague & Obeidat, 2022).

Based on the synthesis of the four included studies, the findings demonstrate a consistent positive association between transformational leadership and patient safety-related outcomes, including patient safety culture, nurses' safety practices, and attitudes toward reporting patient safety incidents (Hamdan et al., 2024; Labrague & Obeidat, 2022; Pamela et al., 2025; Wahyudyasa et al., 2023). Importantly, all included studies (4/4) reported beneficial associations, with no study identifying non-significant or negative relationships.

Across the reviewed studies, patient safety culture emerged as a central mechanism linking transformational leadership to improved safety outcomes. Patient safety culture significantly mediated the relationship between transformational leadership and nurses' safety practices (Hamdan et al., 2024). Transformational leadership had a direct and significant effect on patient safety culture among hospital nurses (Wahyudyasa et al., 2023). These findings align with leadership theory, which posits that transformational leaders shape shared values and norms that guide collective behavior toward safety goals (Bass & Riggio, 2006).

The findings further highlight the importance of indirect pathways through which transformational leadership influences patient safety outcomes. The multinational study demonstrated that transformational leadership mediated the relationship between nurse burnout and patient safety outcomes, indicating that leadership behaviors that support nurses' psychological well-being and work environment can indirectly enhance patient safety (Labrague & Obeidat, 2022). This is consistent with broader patient safety literature, which recognizes

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workforce well-being as a prerequisite for safe and reliable care delivery.

Another key finding relates to the influence of transformational leadership on nurses' safety-related behaviors, particularly incident reporting. A positive association between head nurses' transformational leadership style and nurses' attitudes toward reporting patient safety incidents was reported (Pamela et al., 2025). This suggests that leaders who promote trust, openness, and non-punitive responses may encourage reporting behaviors that are essential for organizational learning and continuous safety improvement.

Contextual and organizational factors also appeared to shape the effectiveness of transformational leadership in promoting patient safety. The included studies were conducted in diverse settings, including Indonesia, Saudi Arabia, and multinational contexts, each with distinct organizational cultures and healthcare system characteristics (Hamdan et al., 2024; Labrague & Obeidat, 2022; Pamela et al., 2025; Wahyudyasa et al., 2023). These contextual differences may influence how transformational leadership behaviors are enacted and perceived, reinforcing the need for leadership development strategies that are sensitive to local organizational and cultural contexts.

Despite the consistency of positive findings, several methodological limitations must be acknowledged. All included studies employed observational, cross-sectional designs, limiting causal inference (Hamdan et al., 2024; Labrague & Obeidat, 2022; Pamela et al., 2025; Wahyudyasa et al., 2023). In addition, the reliance on self-reported measures may introduce response bias. Nevertheless, the convergence of findings across different settings and study populations strengthens the credibility of the evidence and supports the relevance of transformational leadership as an important organizational factor in shaping patient safety outcomes.

Overall, this review indicates that while transformational leadership is consistently associated with positive patient safety outcomes, the existing evidence base remains limited, with only a small number of studies explicitly examining patient safety as a primary outcome. This highlights a significant research gap and underscores the need

for future longitudinal and intervention-based studies to clarify causal mechanisms and inform leadership interventions aimed at improving patient safety in hospital nursing practice.

CONCLUSION

This review demonstrates that transformational leadership is consistently linked to positive patient safety outcomes in hospital nursing practice, including safety culture, adherence to safety practices, and incident reporting. Transformational leaders foster supportive environments through trust, communication, and empowerment, directly and indirectly influencing safety via mediators such as culture, psychosocial factors, and workforce well-being. While evidence underscores its potential as a strategy to enhance patient safety, the limited number of studies highlights the need for further rigorous research to guide leadership development and organizational policy.

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