






Implementation of Safety Leadership in Nursing Management: A Systematic Mixed Studies Review

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Abstract

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BACKGROUND: Safety leadership positively influences safety compliance among employees in healthcare. It is necessary to understand how far nursing management has played its roles in attaining safety leadership.

AIM: This study is aimed to explore the safety leadership implemented by nursing management in enhancing the health-care system.

METHODS: This study conducted a systematic mixed studies review of current literature focusing on nursing managerial and safety leadership. Five key terms, safety leadership and head nurse or headward, first-line nurse manager, nurse leader, or nurse administrator, were used to retrieve relevant articles. Potential articles were found in seven extensive databases (EBSCO, Sage Publication, Scopus, JSTOR, Wiley online, ProQuest, and Emerald). We included English research articles or review papers, available full-text, and published from September 2010 to September 2020. Irrelevant and redundant articles were excluded from the study. Two data extractors analyzed the relevant reports.

RESULTS: The search yielded 40 articles. However, after duplicates were removed, 11 full-text articles involving 5361 respondents were reviewed. The review papers included qualitative studies (n = 3), cross-sectional survey (n = 6), and (quasi) experiments (n = 2). The most significant proportion (40%) of the study was conducted in the American region. Four themes were generated, including role of safety leadership, development of safety leadership, support, and barriers. The review highlights that the nurse leaders play essential role in the development and implementation of safety leaderships in the hospital wards though they face challenges which need supporting team works, professionals, and standards.

CONCLUSION: Adopting safety leadership as a part of nursing management requires support from policymakers, institutions, and nursing leaders. The leaders should understand the complexities of the institutional structures and functional relationships in the health-care system to meet patient safety standards.

Introduction

Safety leadership has witnessed much attention for many decades [1], [2]. It has a crucial role in how safety is promoted and maintained [3]. Leadership also influences the safety culture of the organization [4]. Patient safety is an essential aspect in hospitals and is the responsibility of all parties' commitment to achieving patient safety goals [5]. It must be implemented by all levels of management in an organization [6]. Good safety management can reduce the number of work-related accidents. It plays a significant role in improving the safety performance of all team members in the health care system. One of the causes of hospital accidents is inadequate safety monitoring and supervision at work [7]. A healthy nurse work environment is a safe, empowering, and satisfying workplace supported by good governance and safety leadership [8], [9].

The prominent role of leadership revolves around influencing the relevant people to build a safer

work environment. Head of hospital wards plays a key role in ensuring the quality of services and the care services meet the patient safety standards. They must support the creation of a patient safety culture [10], [11], [12]. To transform health-care delivery for service excellence, the hospital relies on knowledgeable, skilled, and trained leaders who can facilitate communication, resolve conflicts, encourage motivation, and improve patient safety [13], [14], [15]. However, the current condition indicates that most nursing leaders do not have the competence as safety leaders. Research conducted by Mashi, Subramaniam, and Johari (2020) suggested 21.9% of heads of the hospital wards did not attend training on safety management [16]. The training received by these nursing leaders is more related to the ward's direction and not specifically about safety leadership [17]. A study by Al-Ahmadi (2011) found that 61.9% of heads of inpatient wards showed less flexibility and oriented their work strictly in procedure standards and policies. Moreover, only 40.4% of these leaders appraised the nurses' work [18].

Scarce literature has discussed safety leadership in nursing work. For further research and the development of safety leadership in nursing, knowing the factors that encourage safety leadership behavior for head nurses as first-line nurse managers. Thus, this mix-studies review aimed to explore and synthesize research results focused on safety leadership as part of nursing management and enriched the better understanding of this safety leadership. These systematic review findings are expected to briefly describe safety leadership roles and factors supporting and inhibiting safety leadership in nursing.

Methods

We conducted a systematic review to synthesize qualitative and quantitative data in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [19]. Systematic review of the existing literature on safety leadership in nursing was performed. A systematic mixed studies review was chosen to provide comprehensive findings and better understand the safety leadership in nursing in 2010–2020.

Search strategy

A systematic and comprehensive bibliographic search, presented in EBSCO, Sage Publication, Scopus, JSTOR, Wiley online, ProQuest, and Emerald. The MeSH terms included "Safety leadership" AND "head nurse" OR "Safety leadership" AND "Head Ward" OR "Safety leadership" AND "First line nurse manager" OR "Safety leadership" AND "nurse leader" OR "Safety leadership" AND "nurse administrator."

Inclusion criteria and study selection

Titles and abstracts were selected for screening if they met the inclusion and exclusion criteria. The reviewed papers' three major inclusion criteria were published in full text, written in the English language, and published from 2010 to 2020. The first author held literature screening which consisted of a three-stage approach-exclusion by reading the title, the abstract, and the full text before conducting the data extraction. In cases of uncertainty, a discussion was held among the authors to reach a common consensus. First, we extracted 148 articles according to the title and abstract. Then, the selected articles were screened based on the inclusion criteria. Studies that did not address the research question and the duplicates of the identical records were then excluded in this stage and leaving 40 articles for full-text review. Next, we excluded 25 articles due to unavailability in full-text form

or redundancy, and we carried out the final evaluation. The screening process and search results are provided in the flow diagram, as shown in Figure 1. The first and second authors evaluated and critically appraised these included papers. Data were collected using a data extraction form that was designed according to the objectives of this review study. This form had entries on the author, publication year, country, research method, participant, outcome, and intervention (if applicable), comment on methods, effect size, primary findings, and possible bias (Table 1).

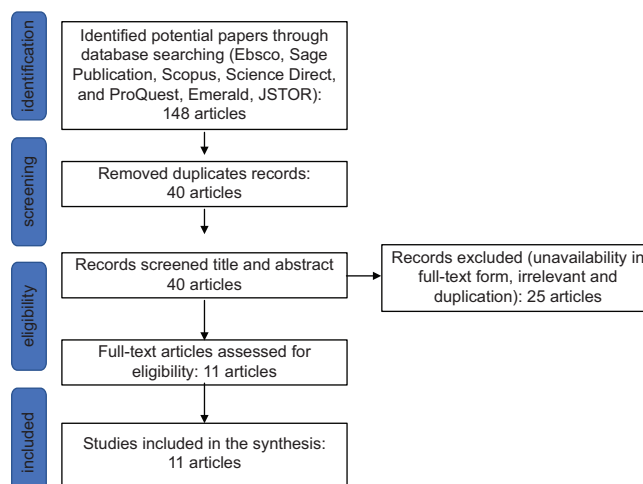


Figure 1: Flow diagram of the phases of the systematic review

Methodological quality appraisal

The quality appraisal of the included literature was assessed using the Quality Assessment Tool [QAT]. Sirriyeh *et al.* QAT tool (2012) was chosen for quality appraisal of the included studies which were tested by the first author for reliability and validity. These relevant studies were chosen for their rigor in assessing qualitative, quantitative, and mixed-method studies [20]. There are 16 quality criteria in the tool; 14 apply to qualitative and quantitative studies, while all 16 apply to mixed methods examinations. Studies are independently appraised and given a score from 0 to 3 according to the identified criteria. The total percentage is used to describe the quality appraisal of each study. The first and second authors tested each study independently and compared their findings. Discussion resolved disagreements, and, when essential, the results were consulted to the third author. Results of the quality assessment are presented in Table 1.

Descriptive data extraction

An Excel matrix was compiled from details of the selected publications: Author name and year of study, country study, study type and sample, aim of the study, themes, and QAT score. These details were then compared and synthesized (Table 1).

Table 1: Research summary of the included studies

Author/year of	Country study	Study type and sample	Aim of study	Themes				Quality score
				Role of safety leadership	Leadership development	Support	Barriers	
Castel <i>et al.</i> , 2015 [21]	Canadian	Cross-sectional, 2319 nurses and 386 physicians	To identify and understand factors influencing fear of repercussions for reporting and discussing medical errors in nurses and physicians	X	X	X	X	69%
Enwereuzor <i>et al.</i> , 2020 [22]	Nigeria	Cross-sectional, 237 hospital staff nurses	To investigate the relationship between ethical leadership and safety compliance	X	X			79%
Halbesleben <i>et al.</i> , 2013 [23]	USA	Cross-sectional, 658 registered nurses	To better understand the relationship between the leader's behavioral integrity regarding safety and work-related injuries.	X		X		88%
Kanerva <i>et al.</i> , 2017 [24]	Finlandia	Participation action research, 13 nurse leaders	To describe the patient safety development process carried out by nursing leaders	X	X			74%
Kim <i>et al.</i> , 2014 [25]	Korea	Multilevel study, 489 nurses	To uncover the factors that affect registered nurses' willingness to report near misses.			X	X	67%
Leroy <i>et al.</i> , 2012 [26]	Belgia	Cross-sectional survey, 54 nursing teams	The relationship between leader behavioral integrity for safety and reported treatment errors	X	X			74%
Ally <i>et al.</i> , 2015 [27]	South Africa	Phenomenology, 10 nurse managers	To explore and describe the nurse managers' experiences of their leadership roles in a specific mining primary healthcare service	X			X	76%
Renolen <i>et al.</i> , 2019 [28]	Norway	Grounded theory, 91 participants	To generate a theory about patterns of leader behavior that leaders are engaged in when attempting to integrate evidence-based practice in a clinical setting.	X	X			83%
Webb <i>et al.</i> , 2014 [29]	USA	Experiment, 8 faculties	To describes a faculty development model about clinical nurse leadership		X	X	X	43%
Vanderboom CE <i>et al.</i> , 2016 [30]	USA	Quasi experiment, 651 nurses	To identification nurses' voices before, during, and after BCMA implementation			X	X	45%
Zohar 2010 [31]	Israel	Cross-sectional, 445 nurses	To test safety culture improvement in hospitals.	X		X		81%

Results

Characteristic of studies

Among 11 included studies, three are from the USA, while others are Canada, Nigeria, South Africa, Korea, Israel, Norway, Finland, and Belgium studies. The reviewed papers are predominantly quantitative design (eight studies), cross-sectional survey or (quasi) experimental, while other three studies are phenomenological, grounded, and participation action research studies (Table 1).

Key themes

Four key themes were identified from the data synthesis: (1) Role of safety leadership; (2) development leadership; (3) support; and, (4) barriers. The summary of factors related to these themes is shown in Table 2.

Role of safety leadership

Eight of the reviewed studies suggested safety leadership roles were affected by dynamic and complex health services [21], [22], [23], [27], [29], [30]. The ever evolving of health-care services creates a challenge for nursing leaders to improve their leadership skills in achieving patient safety goals. Nursing leaders are required to integrate safety values into their leadership behavior [23]. Research in the U.S. emphasizes the need for nursing leaders' involvement in the clinical area to monitor the consistent application of patient safety values in service delivery [23], [28], [29], despite the many roles that must be carried out by a nurse leader [22]. Other studies indicate the essential integration of safety values into leaders' behavior, such

as making safety as a priority, so they can be trusted by their staff [21], [24], [27], [30] and becoming a role model for their nursing staff in implementing patient safety values in their workplace [22], [23].

Development of safety leadership

The development of safety leadership that emphasizes the safety aspect is considered essential by several researchers [21], [22], [24], [28], [29], [31]. For example, Kanerva *et al.* (2017) highlight that nursing leader competencies need to be developed related to safety so that they can be easily applied in the clinical area [24]. Webb and McKeon (2014) propose that nursing leaders are prepared to become competent clinical leaders and they must pass the certification exam as a clinical nursing leader [29]. Through certification, which is carried out regularly, it is hoped that the safety management competencies of nursing leaders can be maintained and accelerated.

Support

The heads of nursing ward frequently face a variety challenge and uncertain situations in their work routine that requires multiple supporting resources as mentioned by the six studies in Canada, the U.S., Korea, and Israel [21], [23], [25], [29], [30], [32], [33], [34], [35]. In providing support to the ward nurses [21], the head nurse must be supported by various parties in different forms [23], [24]. The support can be in the form of solid teamwork [23], a clear division of tasks [24], effective, clear and no blaming safety and feedback communication between professions [31] and across occupations, availability of documentation tools and operational standards for patient safety [23], and a conducive safety climate [23], [26], [31].

Table 2: Synthesis findings: Factors influencing the safety leadership

Role of safety leadership	Development leadership	Support	Barriers
<ul style="list-style-type: none"> • Leadership roles as a Nurse Managers • Difference between management and leadership roles • Leadership role for advancing patient safety • Discrepancy between clinical and leadership roles • Challenges experienced in leadership roles • Leadership role for promoting patient safety • Leader practice the safety values • importance of leader behavioral integrity for safety • Role of leader behavioral integrity • Alignment between word and deeds • Behavioral integrity for safety • Trust in leader • Alignment for high espoused safety values • Improving safety through CNL role implementation • Supervisor role expectations • Difference between management and leadership roles • Intervention geared towards improving trust in their leaders • Importance of subordinates' trust in leaders • Ethical leadership influences subordinates 	<ul style="list-style-type: none"> • Patient safety development and research • Development areas • Leadership role for advancing patient safety • Nurse leaders to the development process • Model C Clinical Nurse Leader [CNL] concerning a culture of safety • CNL certification examination 	<ul style="list-style-type: none"> • The importance of leadership support for safety • Team priority of safety • Team psychological safety • Consistent division of work • Supervisory messages in daily conversation • Feedback intervention for climate change • Effective interdisciplinary communication and coordination • Consistent documentation and oral reporting • Factors that influence speaking up about safety issues • Employee reporting of errors • Willingness to report errors • Prevent medication errors • Safety protocol • The quality and safety of medication administration • Reported treatment errors • Improving safety climate • Feedback intervention for climate change • Knowledge-sharing climate 	<ul style="list-style-type: none"> • Workflow complexities • Leadership role ambiguity • Lack of effective communication • Only focuses on employees' interest • Willingness to report errors • Defensive silence • Having unclear official roles • Overlapping role functions among CNLs and CNSs • Difference fears of repercussions in nurses and physicians • Diverse and substantial differences in error reporting behaviors between nurses and physicians • Double bind and the role of leaders

Barriers

Five reviewed studies [21], [25], [27], [29] described that the head nurse encountered several obstacles in implementing and achieving safety goals. They were mentioned as having unclear roles [22], [24], [26], lack of communication and coordination [27], fear of reporting incidents [21], [25], and not yet focusing on safety goals [27].

Discussion

This systematic review highlights that nurse leaders play an essential role in managing safety services. Nursing leaders as nursing managers can improve patient safety [30], but in a practical situation, the ward head often faces complex challenges [27]. The multiple and ambiguous roles and the intricate work tasks caused incompatibility between the words and actions of the leader [23], [31]. Meanwhile, for the implementation of patient safety, the integrity of the leader's behavior toward patient safety is highly recommended to foster trust among their staff [23], [30], [33], [34]. The nurse leaders must be safety role models and leaders [22], [27] that can influence the team to carry out patient safety well [22]. Clarke (2013) stated the results of his meta-analysis that leaders can combine two leadership styles, namely, transformational and transactional leadership, in achieving safety goals [23].

Implementation of patient safety in hospital care services requires excellent communication between multidisciplinary professionals [21]. Nurse leaders can show their support for protection through safety messages that are consistently communicated to the ward staff in daily conversations [30]. Effective communication in patient safety is carried out by

nursing leaders, implementing nurses, and other health teams. Effective interdisciplinary communication will facilitate coordination, implementation, and evaluation of patient safety services [35]. ISBAR [Identification situation background assessment recommendation] tool facilitates patient safety communication with health professionals and is well-documented and consistently applied in the safety work environment [24]. Communication barriers may hide the reporting of an incident. Fear of reporting errors [23], [25] hinders the effort to study the occurred deficiencies. Learning to open the faults and non-blame leadership communication are needed to improve patient safety endeavors [21]. The leader's calming behavior in responding to the mistakes of the caring staff will lead to psychological safety [23], [36], [37].

The role of the hospital director as the highest hospital leader becomes essential as a form of support for the implementation of patient safety. The hospital leadership provided support through giving feedback [30], paying attention to the division of labor by workload [24], prioritizing safety [23], and increasing efforts to achieve a safe climate in hospitals. Perceptions of the safety climate are essential [23], [30] in achieving safety goals. These can be executed through providing feedback [30], sharing knowledge about safety standards and procedures [25], and prepare a safety protocol and proper documentation, and developing the courage to speak about safety [23].

Studies conducted in several countries found several obstacles in performing and achieving patient safety goals. Constraints encountered can come from the organization, staff, and the leader himself. Barriers from the organization, including work complexity [29] and having unclear official roles [25], may cause constraints in delivering effective communication and focusing on employee interests [27]. While ward staff may have a low desire to report errors and keep defensive silent [25]

as different professionals may experience substantial differences in reporting errors, and some of them might scare of reporting errors [21], [38], [39]

Limitation

This systematic review highlights the limitations of existing literature on safety leadership. Future research should explore and investigate the aspects of these limitations to overcome. There is a chance to explore additional safety leadership behaviors and to understand their impact on safety performance. Empirical evidence on the safety leadership and effective interventions for the short-term for safety leader development in nursing need to be established. The combination of the different leadership behaviors is effective in improving safety performance. Therefore, the adoption of varying leadership behaviors, in conjunction with the transformational and transactional ones, is suggested for future investigation. This will offer a flexible style of leadership that may be more appropriate in the complex environment of safety in the nursing area.

Conclusion

The result of this review has also uncovered the limited exploration of leadership competencies in the safety context. While competencies have been found valuable in experiencing outstanding success, much attention should be directed to exploring a range of other competencies and investigating their impact on safety performance. The role of leaders should not simply be to exercise "influence" behaviors but should also include deciding when, where, and how the influence is implemented to attain goals. Thus, the focus should be on the competencies, skills, and knowledge to develop influential leaders. Good safety leadership leads to more satisfied nurses who will result in better job performance and higher quality of patient care, subsequently improving healthcare organizations' financial viability. Fostering a safety leadership is a continuous effort in the health-care system, especially in a hospital.

Recommendations

More study need to be conducted in certain regions, involving students, focusing on improving nursing management and developing an integrated safety leadership model. Research about safety leadership currently still stays at a descriptive level. Future research is needed to design and test interventions to promote safety leadership. The published body of literature lacks information about

the impacts of leadership's caring actions on safety leadership. It also lacks research studies investigating nurses' contributions to building and maintaining a good safety leadership.

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