

Assessment Of Clinical Leadership Competency Among Registered Nurses Working In Neuro Units Of A Tertiary Hospital, Riyadh, Saudi Arabia: A Cross-Sectional Study

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Abstract

Background: Clinical leadership competency is an important aspect of nursing practice, particularly for supporting coordinated care, effective teamwork, and sound clinical decision-making. Understanding the level of clinical leadership competency among registered nurses can help identify areas for further professional development. This study aimed to determine the level of clinical leadership competency and examine its associations with selected demographic and professional characteristics among registered nurses working in neuro units of a tertiary hospital in Riyadh, Saudi Arabia.

Methods: A quantitative descriptive cross-sectional study was conducted among 81 registered nurses. Data were obtained using a structured questionnaire that included a researcher-modified version of the Leadership Practices Inventory (LPI) Self-Assessment developed by Kouzes and Posner. The modified 40-item questionnaire assessed four clinical leadership competency domains: Demonstrating Personal Attributes, Working with Others, Duty Management, and Setting Direction & Making Decisions. Participant characteristics and competency scores were summarized using descriptive statistics. Inferential statistical tests were applied to examine associations between selected demographic and professional characteristics and the clinical leadership competency domains. Statistical significance was considered at $p < 0.05$. The internal consistency of the modified questionnaire was evaluated using Cronbach's alpha.

Results: Among the 81 participants, 48 (59.3%) demonstrated excellent overall clinical leadership competency, 32 (39.5%) demonstrated good competency, and 1 (1.2%) was classified as developing. The highest proportion of excellent competency was observed in Duty Management (63.0%), followed by Working with Others (60.5%) and Setting Direction & Making Decisions (53.1%). Demonstrating Personal Attributes had comparable proportions of participants with good (49.4%) and excellent (48.1%) competency. The overall mean clinical leadership competency score was 85.5 ± 6.9 , while Duty Management recorded the highest domain mean (86.7 ± 7.8). Shift leadership role was significantly associated with Duty Management ($p = 0.022$) and Setting Direction & Making Decisions ($p = 0.018$). Nationality was significantly associated with Setting Direction & Making Decisions ($p = 0.048$). No significant associations were identified between the competency domains and age, gender, educational level, or years of nursing experience. The modified questionnaire demonstrated high internal consistency, with a Cronbach's alpha of 0.943.

Conclusion: The participating registered nurses demonstrated a high level of clinical leadership competency overall, with Duty Management emerging as the highest-scoring domain. Shift leadership role was associated with competency in Duty Management and Setting Direction & Making Decisions. These findings support the provision of appropriate opportunities for nurses to undertake clinical leadership responsibilities and participate in structured professional development. As the study employed a cross-sectional design, the observed associations cannot be interpreted as causal relationships. Further longitudinal and interventional research is recommended to determine whether structured leadership opportunities are associated with changes in clinical leadership competency over time.

Keywords: Clinical leadership; Leadership competency; Registered nurses; Duty management; Shift leadership; Cross-sectional study.

Introduction/Background

Nursing practice takes place within multidisciplinary clinical environments in which nurses interact continuously with healthcare professionals and support personnel from different areas of expertise. In addition to providing direct patient care, nurses coordinate clinical activities, communicate patient-related information, delegate responsibilities, and support other members of the healthcare team. These responsibilities become particularly important when nurses assume temporary or ongoing leadership roles during clinical shifts. Effective clinical leadership may facilitate teamwork, coordination of clinical processes, and the delivery of safe and high-quality patient care (Wong & Cummings, 2007).

Clinical leadership refers to the ability of nurses to influence colleagues and members of the healthcare team through clinical knowledge, professional behavior, communication, and decision-making, regardless of whether they hold a formal management

position (Gilmartin & D'Aunno, 2007). The development and demonstration of clinical leadership competency may be influenced by various professional and workplace factors. Organizational hierarchies, challenges in interdisciplinary collaboration, limited leadership preparation, and inadequate opportunities for professional development may create barriers to leadership development among nurses (Algunmeeyn et al., 2024). Evidence from Saudi Arabia has indicated that clinical experience, supervision, and educational support may facilitate the development of leadership skills, whereas demanding workloads, workplace stress, and communication challenges may create difficulties for nurses (Alilyyani et al., 2024).

Leadership development is relevant throughout the nursing career and should not be restricted to nurses occupying formal managerial positions. Nurses who coordinate colleagues during a shift or assume responsibility for specific clinical activities require competencies in communication, delegation, prioritization, coordination, problem-solving, and decision-making. Structured leadership education and continuing professional development may provide nurses with opportunities to strengthen these competencies and prepare for increased leadership responsibilities (Drenkard, 2014). This is particularly relevant within the Saudi healthcare system, where ongoing healthcare transformation has emphasized the development of a capable and well-prepared nursing workforce. Strengthening nursing leadership is also consistent with the broader objectives of Saudi Vision 2030 and efforts to enhance healthcare quality and service delivery (Alsufyani et al., 2020). Previous research has indicated that leadership skills can be associated with employee performance and organizational outcomes (Deepa, 2020).

Senior registered nurses occupy an important position within the clinical workforce because they frequently coordinate patient care, support less experienced nurses, and communicate with other members of the healthcare team. Their leadership practices may be associated with team coordination, workplace functioning, and patient care outcomes (Sisk et al., 2021). Previous research has reported associations between transformational leadership and outcomes related to the nursing work environment and patient care, highlighting the importance of strengthening leadership capacity within nursing teams (Ystaas et al., 2023). In addition, factors such as workload, organizational conditions, and workplace demands may affect the well-being of nurse leaders and their ability to perform effectively (Niinihuhta et al., 2022). Leadership approaches that emphasize support, empowerment, professional development, autonomy, and staff participation may contribute to healthier work environments and improved quality of work life among nurses (Gottlieb et al., 2021; Suratno, 2018).

The importance of effective nursing leadership became particularly apparent during the COVID-19 pandemic. Nurse leaders were required to respond to rapidly changing clinical circumstances, maintain effective communication, support staff, and address complex patient-care demands. Leadership approaches emphasizing staff strengths, empowerment, autonomy, and supportive practice environments have been proposed as valuable approaches for supporting nurses and strengthening the nursing workforce during challenging circumstances (Gottlieb et al., 2021). In addition, structured leadership initiatives have demonstrated potential to strengthen leadership knowledge and competency among nurses undertaking clinical leadership responsibilities (Hassan et al., 2020).

The need for clinical leadership development may vary across healthcare settings. In specialized clinical environments, limited access to leadership education and inadequate preparation for nurses responsible for clinical coordination may present challenges to effective leadership practice (Nhongo et al., 2018). Nurse managers also have an important role in supporting staff performance, highlighting the value of incorporating leadership and management education into professional development strategies (Patarru et al., 2020). Effective communication between nursing leaders and staff has additionally been associated with important nursing and organizational outcomes, emphasizing communication as a fundamental component of effective nursing leadership (Fowler et al., 2021).

Evidence from intervention studies further supports the potential value of structured leadership development. For example, a clinical leadership competency program involving charge nurses was associated with improvements in leadership knowledge and competency following the intervention (Hassan et al., 2020). Research examining nurse leaders has also identified associations between leadership-related factors, supportive working environments, and occupational well-being, emphasizing the importance of organizational conditions in sustaining effective leadership (Niinihuhta et al., 2022). Leadership approaches that promote supportive relationships, professional development, and positive interactions have similarly been associated with greater job satisfaction among nurses in different clinical settings (Morsiani et al., 2017; Roberts-Turner et al., 2014).

In Saudi Arabia, continued development of nursing leadership is particularly important because challenges related to professional participation, governance, decision-making, and access to leadership education have been identified within healthcare settings (Alasiri, 2019). Strengthening professional nursing structures and providing systematic opportunities for leadership development may help address these challenges. Evidence also suggests that clinical leadership and workplace empowerment are associated with nursing and patient care outcomes (Boamah, 2018). Therefore, leadership preparation should extend beyond formal management positions to include nurses who undertake leadership responsibilities as part of routine clinical practice.

Previous research has demonstrated variation in nurses' perceptions of their clinical leadership knowledge and competency, indicating potential opportunities for education, mentorship, and targeted professional development (Wright et al., 2020). The

clinical work environment may also affect nurses' opportunities to demonstrate leadership. Supportive nurse managers, appropriate staffing, and constructive relationships within the healthcare team have been associated with healthier work environments and nursing performance (Cho & Han, 2018). Organizational support and leadership may likewise facilitate nurses' engagement with evidence-based practice and knowledge management, supporting the application of knowledge in clinical decision-making (Lunden et al., 2021).

Although previous research has examined nursing leadership, leadership development, workplace factors, and professional outcomes, further investigation of clinical leadership competency among registered nurses working in specialized hospital settings is warranted. In particular, there is a need to understand whether demographic and professional characteristics, including practical exposure to leadership responsibilities, are associated with different areas of clinical leadership competency. Experiential learning may provide nurses with opportunities to develop leadership competencies through practical involvement in clinical activities and decision-making (Wang et al., 2020). In addition, evidence from nursing leadership research has highlighted the importance of leadership approaches and supportive work environments in relation to nursing workforce outcomes (Cummings et al., 2018; Wong & Cummings, 2007).

Therefore, the present study was conducted to assess clinical leadership competency and examine its associations with selected demographic and professional characteristics among registered nurses working in neuroscience units of a tertiary hospital in Riyadh, Saudi Arabia. The findings may provide useful evidence for identifying areas of clinical leadership competency requiring further development and may inform leadership education, mentorship, and professional development initiatives for nurses who undertake clinical leadership responsibilities in clinical practice.

Materials And Methods

Study Design

A quantitative, descriptive cross-sectional study design was used to assess clinical leadership competency among registered nurses and to examine its associations with selected demographic and professional characteristics. Data were collected at a single point in time, allowing the assessment of clinical leadership competency and its associations with the selected variables without establishing causal relationships.

Study Setting

The study was conducted at King Fahad Medical City (KFMC), a tertiary multispecialty healthcare institution located in Riyadh, Saudi Arabia, with an approximate capacity of 1,500 beds. The study was undertaken within the National Neuroscience Institute (NNI) and focused on Senior Registered Nurses (SN1 level) involved in direct bedside patient care who undertook shift-lead responsibilities as coverage for the Shift Manager or Shift In-Charge. These nurses also received leadership training and preparation to assume Shift Manager or Shift In-Charge responsibilities when required.

Study Population

The study population comprised Senior Registered Nurses (SN1 level) working in the inpatient units of the National Neuroscience Institute (NNI) at King Fahad Medical City (KFMC), Riyadh, Saudi Arabia, and involved in direct bedside patient care.

Eligibility Criteria

Inclusion criteria: Registered nurses of either gender who were SN1 level, working in the NNI inpatient units, providing direct bedside patient care during day or night shifts, and undertaking or eligible to undertake shift-lead responsibilities were eligible to participate.

Exclusion criteria: Nurses working in managerial, administrative, or specialist positions were excluded, as the study focused on clinical leadership competency among nurses engaged in direct inpatient care.

Sample Size and Calculation

The eligible nursing population was estimated at approximately 200 registered nurses working in the inpatient units of the National Neuroscience Institute (NNI). Using an assumed proportion of 50%, a 95% confidence level, and a 5% margin of error, the preliminary sample requirement was estimated at 384 participants. Because the accessible population was limited to approximately 200 nurses, a finite population correction was applied, resulting in an adjusted requirement of approximately 133 participants. Considering the number of eligible SN1 nurses available during the data collection period and the voluntary nature

of participation, a practical recruitment target of 100 nurses was established. Ultimately, 81 eligible nurses completed the questionnaire and were included in the final analysis.

Sampling and Recruitment

Eligible SN1 registered nurses providing direct inpatient care within the National Neuroscience Institute at King Fahad Medical City were invited to participate. Participation was voluntary, and nurses who met the eligibility criteria and provided informed consent were invited to participate and subsequently recruited into the study. Participants were informed about the study purpose, voluntary participation, and their right to decline participation without any impact on their employment or professional responsibilities.

Data Collection Instrument

Data were collected using a structured questionnaire consisting of two sections.

Section A collected demographic and professional characteristics, including age, gender, marital status, educational level, university location, nationality, years of nursing experience, shift leadership role, and years of experience at King Fahad Medical City.

Section B evaluated clinical leadership competency using a researcher-adapted version of the Leadership Practices Inventory (LPI) Self-Assessment originally developed by Kouzes and Posner. The researcher modified the items to ensure their relevance to the clinical leadership responsibilities of registered nurses in the study setting. The resulting questionnaire contained 40 items, distributed equally across four clinical leadership competency domains: Demonstrating Personal Attributes, Working with Others, Duty Management, and Setting Direction and Making Decisions, with 10 items assigned to each domain. Each item was rated using a five-point Likert scale, ranging from 1 (None of the Time) to 5 (Always). Higher scores indicated more frequent demonstration of clinical leadership behaviors. The item scores were summed and converted into percentage scores. Based on the study-specific scoring criteria, clinical leadership competency was categorized as Developing, Good (70–84%), or Excellent (85–100%). The modified questionnaire is provided in Appendix 1.

Content Validity and Reliability

To establish content validity, the modified questionnaire was reviewed by five PhD-prepared nursing experts with experience in nursing leadership and/or clinical leadership practice. The experts assessed the relevance, clarity, and appropriateness of the items. Their recommendations were incorporated into the final version of the questionnaire before data collection. The 40-item modified questionnaire demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.943.

Data Collection Procedure

Following ethical approval and institutional permission, data were collected from eligible SN1 registered nurses providing direct inpatient care within the National Neuroscience Institute (NNI). Participants were informed about the study purpose, procedures, voluntary nature of participation, and confidentiality. After providing informed consent, participants completed the structured questionnaire, which collected demographic and professional characteristics and assessed clinical leadership competency using the researcher-modified Leadership Practices Inventory (LPI) Self-Assessment. Participation was voluntary, and no personally identifying information was collected. Completed questionnaires were collected and prepared for quantitative statistical analysis.

Data Analysis

Data were analyzed using IBM SPSS Statistics, version 29. Descriptive statistics, including frequencies and percentages, were used to summarize participants' demographic and professional characteristics and the distribution of clinical leadership competency levels. For the clinical leadership competency domains and overall clinical leadership competency, descriptive statistics, including mean, standard deviation, minimum, and maximum scores, were calculated. Associations between selected demographic and professional characteristics and clinical leadership competency domains were examined using appropriate inferential statistical tests based on the type and distribution of the variables. Statistical significance was set at a p-value < 0.05. Given the cross-sectional design, the findings were interpreted as associations and not as evidence of causal relationships.

Ethical Considerations

Ethical approval for the study was granted by the Institutional Review Board (IRB) of King Fahad Medical City (Approval No. 25-063). Participation was entirely voluntary, and written informed consent was obtained from all participants before data collection.

Results

Participants Characteristics

The study included 81 registered nurses. Most participants were over 30 years of age (85.2%), female (82.7%), and married (65.4%). Regarding educational attainment, 65.4% held a Bachelor of Science in Nursing (BSN), while 30.9% held a diploma and 3.7% held a Master of Science in Nursing (MSN). Most participants (90.1%) obtained their nursing education outside Saudi Arabia. In terms of nationality, 87.7% were non-Saudi and 12.3% were Saudi. Regarding professional experience, 42.0% had more than 10 years of nursing experience, followed by 32.1% with 1–5 years and 25.9% with 6–10 years of experience. More than half of the participants (61.7%) reported having a shift leadership role. Regarding experience at KFMC, 45.7% had worked at the institution for 1–5 years, 21.0% for 6–10 years, and 33.3% for more than 10 years.

Table: 1 Demographic Characteristics of Participants (N=81)

Variables	Category	n (%)
Age	20–30 years	12 (14.8)
	>30 years	69 (85.2)
Gender	Male	14 (17.3)
	Female	67 (82.7)
Marital Status	Single	28 (34.6)
	Married	53 (65.4)
Education	Diploma	25 (30.9)
	BSN	53 (65.4)
	MSN	3 (3.7)
University	KSA	8 (9.9)
	Outside KSA	73 (90.1)
Nationality	Saudi	10 (12.3)
	Non-Saudi	71 (87.7)
Years of Experience in Nursing	1–5	26 (32.1)
	6–10	21 (25.9)
	>10	34 (42.0)
Shift leadership Role	Yes	50 (61.7)
	No	31 (38.3)
Years of Experience in KFMC	1-5 years	37(45.7)
	6–10 years	17(21.0)
	>10 years	27(33.3)

Note: Values are presented as frequency and percentage, n (%). Percentages are based on the total sample of 81 participants.

Overall Clinical Leadership Competency

Overall, participants demonstrated good to excellent clinical leadership competency across the assessed domains. Of the 81 participants, 48 (59.3%) demonstrated excellent competency, 32 (39.5%) demonstrated good competency, and 1 (1.2%) was classified as developing. Among the four domains, Duty Management had the highest proportion of participants with excellent competency (63.0%), followed by Working with Others (60.5%) and Setting Direction & Making Decisions (53.1%). Demonstrating Personal Attributes showed a relatively balanced distribution between good (49.4%) and excellent (48.1%) competency, with 2.5% classified as developing.

Figure 1. Clinical Leadership Competency Levels

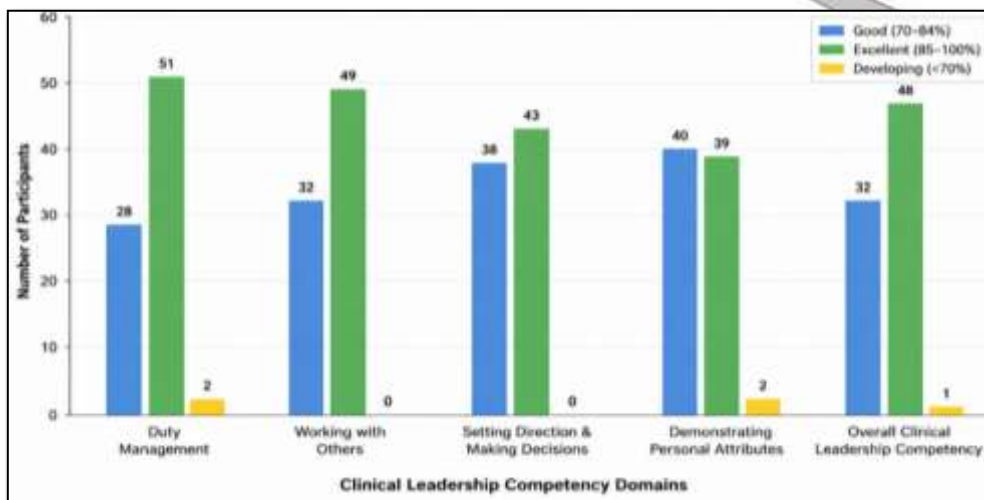


Figure 1 illustrates the distribution of participants across the three clinical leadership competency levels developing, good, and excellent or each assessed domain and overall competency. The findings demonstrate that the majority of participants were classified within the good or excellent competency categories, with Duty Management showing the highest proportion of excellent competency (63.0%). Overall, 59.3% of participants were classified as having excellent clinical leadership competency, indicating a generally high level of clinical leadership competency among the participating nurses.

Note: Values are presented as frequency and percentage, n (%), based on the total sample of 81 participants. Clinical leadership competency was categorized as Developing, Good (70–84%), and Excellent (85–100%).

Figure 2: Associations between selected demographic and professional characteristics and clinical leadership competency domains.

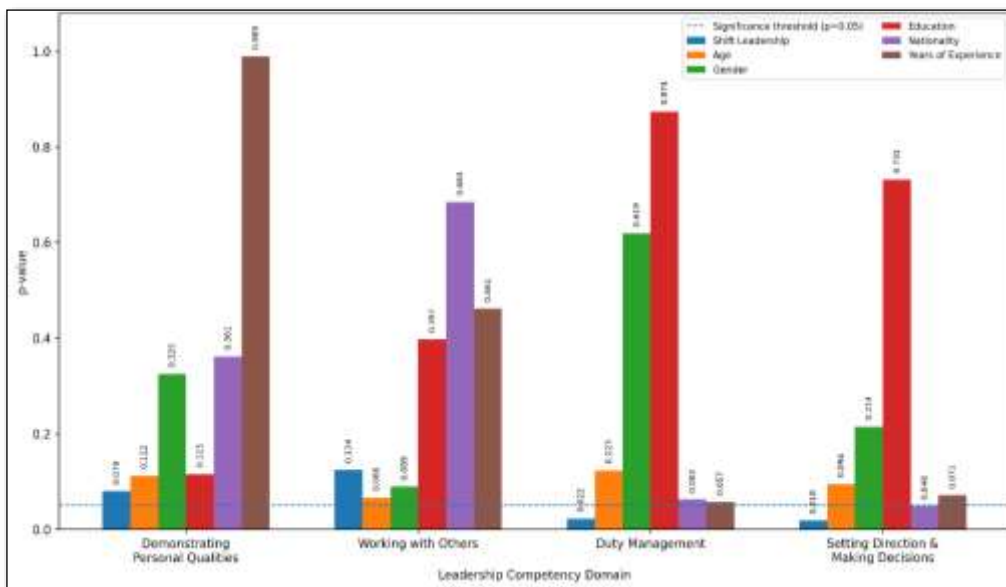


Figure 2 illustrates the associations between selected demographic and professional characteristics and the assessed clinical leadership competency domains. Shift leadership role was significantly associated with Duty Management ($p = 0.022$) and Setting Direction & Making Decisions ($p = 0.018$). Nationality was also significantly associated with Setting Direction & Making Decisions ($p = 0.048$). No statistically significant associations were observed between the other demographic and professional characteristics and the clinical leadership competency domains ($p > 0.05$).

Figure 3. Mean Clinical Leadership Competency Scores Across Domains



Figure 3 illustrates the mean clinical leadership competency scores across the four assessed domains and the overall clinical leadership competency score. Participants demonstrated relatively high mean scores across all clinical leadership competency domains. Duty Management had the highest mean score (86.7 ± 7.8), followed by Working with Others (85.9 ± 7.4), Setting Direction & Making Decisions (84.8 ± 8.1), and Demonstrating Personal Attributes (84.6 ± 7.9). The overall mean clinical leadership competency score was 85.5 ± 6.9 .

Note: Values are presented as mean $\pm$ standard deviation (SD). Higher scores indicate higher levels of clinical leadership competency.

Table: 2 Internal Consistency of the Clinical Leadership Competency Questionnaire

Instrument	No of items	Cronbach's Alpha (α)	Interpretation
Clinical Leadership Competency Questionnaire	40	0.943	High Internal consistency

Note: Cronbach's alpha was calculated for the 40-item modified Clinical Leadership Competency Questionnaire. An alpha coefficient of 0.943 indicates high internal consistency among the items.

Discussion

The present cross-sectional study examined the level of clinical leadership competency and its associations with selected demographic and professional characteristics among participating nurses. Overall, the findings demonstrated a high level of self-reported clinical leadership competency among the participants. As shown in Figure 1, 59.3% of participants demonstrated excellent overall clinical leadership competency, while 39.5% demonstrated good competency and 1.2% were classified as developing. Among the individual domains, Duty Management had the highest proportion of participants with excellent competency (63.0%), followed by Working with Others (60.5%) and Setting Direction & Making Decisions (53.1%). Demonstrating Personal Attributes showed a relatively even distribution between good (49.4%) and excellent (48.1%) competency levels. These findings indicate that participants in the study setting generally demonstrated a high level of clinical leadership competency across the assessed domains.

As shown in Figure 2, having a shift leadership role was significantly associated with Duty Management ($p = 0.022$) and Setting Direction & Making Decisions ($p = 0.018$). Nationality was also significantly associated with Setting Direction & Making Decisions ($p = 0.048$). These findings indicate that nurses who reported undertaking shift leadership responsibilities had significantly different competency levels in selected domains compared with those who did not report such responsibilities. However, because this study used a cross-sectional observational design, these associations should not be interpreted as evidence that shift leadership roles cause higher clinical leadership competency. It is also possible that nurses with higher existing clinical leadership competency are more likely to be assigned or selected for shift leadership responsibilities. Other demographic and professional characteristics, including age, gender, education level, and years of experience, were not significantly associated with the assessed

clinical leadership competency domains. The findings suggest that practical leadership exposure may be relevant to selected areas of clinical leadership competency; however, the direction and nature of this relationship require further investigation through longitudinal or interventional research (Cummings et al., 2018; Wang et al., 2020).

As shown in Figure 3, the mean scores further support the high level of clinical leadership competency observed in this study. Duty Management had the highest mean score (86.7 ± 7.8), followed by Working with Others (85.9 ± 7.4), Setting Direction & Making Decisions (84.8 ± 8.1), and Demonstrating Personal Attributes (84.6 ± 7.9). The overall mean clinical leadership competency score was 85.5 ± 6.9 . These results indicate that participants generally demonstrated clinical leadership competency within the good-to-excellent range, with Duty Management representing the strongest competency domain. The findings are consistent with previous research emphasizing leadership development and practical experiences in relation to nurses' leadership competencies (Sisk et al., 2021; Wang et al., 2020). However, the cross-sectional design of the present study does not allow a causal relationship to be established between shift leadership experience and clinical leadership competency.

Previous research has highlighted the potential value of experiential learning and practical leadership exposure in relation to leadership competencies among nurses (Wang et al., 2020). Structured leadership initiatives have also demonstrated potential to improve clinical leadership knowledge and competency among nurses undertaking leadership responsibilities (Hassan et al., 2020). The present findings, particularly the significant associations between shift leadership roles and Duty Management and Setting Direction & Making Decisions, are broadly consistent with previous research emphasizing the potential relevance of practical leadership experiences in clinical practice. However, the present study cannot establish whether leadership experience contributes to higher clinical leadership competency or whether nurses with higher competency are more likely to undertake leadership responsibilities.

Previous studies have reported positive associations between transformational leadership and nurse-related outcomes, including the work environment, job satisfaction, and patient-related outcomes (Ystaas et al., 2023; Gottlieb et al., 2021; Morsiani et al., 2017; Boamah, 2018). Transformational and empowering leadership approaches have also been associated with positive nursing work environments and greater staff empowerment (Ystaas et al., 2023; Gottlieb et al., 2021; Boamah, 2018). These findings provide a broader context for understanding the relevance of effective leadership within nursing practice. However, the present study did not directly assess leadership styles, organizational outcomes, or patient outcomes. Therefore, these findings should be interpreted as contextual evidence rather than outcomes demonstrated by the present study.

A supportive organizational environment, characterized by appropriate staffing, effective resource management, constructive relationships among healthcare professionals, and opportunities for professional development, may support nursing performance and positive professional behaviors (Cho & Han, 2018). Likewise, evidence-based practice and knowledge management initiatives may benefit from managerial support and structured educational opportunities, emphasizing the relevance of leadership involvement, guidance, and professional development (Lunden et al., 2021).

Overall, the findings underscore the potential relevance of practical leadership exposure and structured professional development opportunities to nursing leadership. Previous research has highlighted the potential value of experiential learning and practical leadership exposure in relation to leadership competencies among nurses (Wang et al., 2020). In the present study, demographic and professional characteristics showed limited significant associations with clinical leadership competency, whereas shift leadership role was significantly associated with selected clinical leadership competency domains. The high overall level of clinical leadership competency observed among participants, together with these significant associations, supports consideration of appropriate opportunities for nurses to participate in leadership responsibilities within clinical practice.

The modified Clinical Leadership Competency Questionnaire demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.943. This finding indicates strong internal consistency among the 40 items in measuring the overall clinical leadership competency construct and supports the reliability of the modified instrument within the study population. However, because the questionnaire was researcher-modified from the original Leadership Practices Inventory, its psychometric properties should be further evaluated in larger and more diverse nursing populations.

Healthcare organizations should consider enhancing structured leadership development programs, mentorship opportunities, and professional development initiatives to help nurses effectively manage clinical responsibilities, foster interdisciplinary collaboration, and make well-informed decisions. Integrating leadership development efforts with national healthcare priorities, such as Saudi Vision 2030, may further contribute to strengthening the nursing workforce and promoting the delivery of safe, effective, and high-quality patient care (Alsufyani et al., 2020). However, these recommendations should be considered in the context of the cross-sectional design, which does not establish causal relationships. Future longitudinal and interventional studies are recommended to determine whether structured leadership opportunities are associated with subsequent changes in clinical leadership competency.

Implications

The findings demonstrate that bedside nurses possess a high level of Clinical leadership competency, with 59.3% of participants rated as excellent and 39.5% as good in overall leadership competency. Duty Management showed the highest proportion of excellent competency (63.0%) and the highest mean score (86.7 ± 7.8), followed by Working with Others (85.9 ± 7.4). These findings suggest that clinical staff already possess a strong leadership foundation that hospital leadership can further develop and leverage.

The significant association between shift clinical leadership roles and Duty Management ($p = 0.022$) and Setting Direction & Making Decisions ($p = 0.018$) underscores the value of providing nurses with formal leadership responsibilities and practical opportunities to strengthen operational, decision-making, and managerial skills. The significant association between nationality and Setting Direction & Making Decisions ($p = 0.048$) may also warrant further exploration in future studies.

Moreover, the absence of significant associations between most demographic characteristics and leadership competency suggests that leadership development initiatives can be broadly implemented across nursing staff rather than being extensively tailored according to age, gender, education, or years of experience. Hospitals and nursing managers should prioritize structured leadership programs, mentorship, experiential learning, and skill-development workshops, particularly in strategic decision-making and personal attribute development.

These results also support the integration of clinical leadership training into nursing curricula and continuing professional development programs to strengthen leadership capabilities, promote effective teamwork and decision-making, and maintain high-quality patient care. Providing bedside nurses with opportunities to undertake leadership responsibilities may further contribute to building a confident, capable, and resilient nursing workforce.

Recommendations

To further enhance nursing leadership competency, healthcare organizations should implement structured leadership development programs that integrate formal education, hands-on practice, and mentorship opportunities. Based on the present findings, particular emphasis should be placed on duty management, decision-making, teamwork, and personal leadership attributes.

Nurses should be provided with opportunities to undertake shift-lead responsibilities, coordinate clinical activities, or manage small quality-improvement projects, allowing them to apply theoretical knowledge in real-world clinical situations. The significant association between shift leadership roles and Duty Management and Setting Direction & Making Decisions highlights the potential value of practical leadership exposure in strengthening these competencies.

Mentorship initiatives should strategically pair less experienced nurses with experienced clinical leaders to support practical skill development and professional growth. Continuous professional development workshops, leadership seminars, and simulation-based training can further reinforce decision-making, conflict resolution, communication, and team-coordination skills in a controlled environment.

Clinical Leadership development interventions should focus primarily on role-specific competencies rather than demographic characteristics, as most demographic variables were not significantly associated with leadership competency in this study. Collaborative learning, peer feedback, reflective practice, and shared leadership approaches should also be encouraged to promote accountability, confidence, and team cohesion.

Healthcare organizations should consider providing structured leadership development programs, mentorship opportunities, and professional development initiatives that may provide nurses with opportunities to develop competencies in clinical coordination, decision-making, communication, delegation, and problem-solving. Practical leadership opportunities may also be relevant to the development of selected clinical leadership competencies. However, these recommendations should be interpreted cautiously because the cross-sectional design of the present study does not establish causal relationships.

Finally, leadership development should be viewed as a continuous process throughout the nursing career. Research-informed and evidence-based leadership programs should be regularly evaluated to determine their effectiveness and sustainability and to ensure that leadership development contributes to improved nursing performance, team functioning, and quality of patient care.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design of the study limits the ability to establish temporal or causal relationships between clinical leadership competency and the demographic or professional characteristics examined. The observed associations should therefore be interpreted cautiously and should not be considered evidence of causation. Longitudinal or interventional studies are recommended to further examine the direction and nature of these relationships.

Second, the cross-sectional design captures clinical leadership competency at a single point in time and therefore does not allow causal relationships to be established between leadership roles and competency levels. Leadership competencies may develop over time; therefore, longitudinal studies are warranted to examine changes and developmental trajectories.

Third, the study relied on a self-reported clinical leadership competency assessment, which may be subject to response and social-desirability bias. Although the modified instrument underwent content validation by nursing experts, self-assessment may not fully reflect actual leadership behaviors in clinical practice. Future studies could incorporate peer, supervisor, or observational assessments to provide a more comprehensive evaluation.

Additionally, the study did not assess contextual factors such as organizational culture, staffing levels, workload, resource availability, team dynamics, or patient acuity, which may influence nursing leadership competency. Informal leadership experiences outside formal shift leadership roles were also not explored.

Finally, although several demographic and professional characteristics were examined, other potentially relevant factors, such as previous leadership training, mentorship experiences, and participation in leadership development programs, were not assessed. Future research should include larger and more diverse samples across different clinical settings and healthcare institutions. Longitudinal and mixed-methods studies may provide deeper insight into the development of nursing leadership competencies and the organizational factors that support effective clinical leadership.

Conclusion

The study demonstrates that registered nurses providing direct bedside care at King Fahad Medical City possess a high level of clinical leadership competency across key domains, including duty management, working with others, decision-making, and personal attributes. The overall leadership competency was high, with Duty Management demonstrating the highest mean score. Most demographic characteristics were not significantly associated with leadership competency; however, shift leadership roles were significantly associated with Duty Management and Setting Direction & Making Decisions.

These findings highlight the potential relevance of practical leadership exposure and structured professional development opportunities to nursing leadership competency, while recognizing that the cross-sectional design does not establish causality. Structured professional development, mentorship, experiential learning, and leadership training should be incorporated into nursing practice to further strengthen clinical leadership competencies. Enhancing clinical leadership not only supports nurse empowerment and effective team functioning but may also contribute to the delivery of safe, efficient, and high-quality patient care.

Conflict Of Interest

The authors declare that they have no competing interests.

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Data Availability Statement

The data generated and analyzed during this study are not publicly available due to participant confidentiality and institutional requirements. The data may be available from the corresponding author upon reasonable request and subject to appropriate institutional approval.

Authors' Contributions

All authors contributed to the conception and design of the study, data collection, analysis and interpretation of the findings, manuscript preparation, and critical revision of the manuscript. All authors reviewed and approved the final version of the manuscript.

Consent For Publication

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Appendix 1. Modified Clinical Leadership Competency Questionnaire

Section B: Clinical Leadership Competency

The questionnaire was a researcher-modified version of the Leadership Practices Inventory (LPI) Self-Assessment developed by Kouzes and Posner. The instrument was adapted to assess clinical leadership competency among registered nurses in the study setting. The modified questionnaire consisted of 40 items organized into four clinical leadership competency domains: Demonstrating Personal Attributes, Working with Others, Duty Management, and Setting Direction and Making Decisions. Each item was rated using a five-point Likert scale, ranging from 1 (None of the Time) to 5 (Always). Higher scores indicated more frequent demonstration of clinical leadership behaviors. The complete modified questionnaire is provided in Appendix 1.

SECTION: B

Domain:1	DEMONSTRATING PERSONAL QUALITIES	Always (5)	A Lot of Time (4)	Some Of the Time (3)	Very Little (2)	None of the Time (1)
1	I seek feedback from other staff regarding my strengths and weaknesses.					
2	I remain calm and focused under pressure					
3	I reflect on my own values					
4	I communicate in an open and honest manner					
5	I respect others' cultural, belief, and attitudinal differences.					
6	I seek feedback on my behavior and change it accordingly					
7	I actively seek opportunity to learn and develop					
8	I speak out when I observe that professional ethics are being compromised					
9	I plan my work effectively and manage my time.					

10	I complete my required tasks before the deadline.					
Domain:2	WORKING WITH OTHERS	Always (5)	A Lot of Time (4)	Some Of the Time (3)	Very Little (2)	None of the Time (1)
1	I communicate clearly and effectively with other staff					
2	I take into account the needs and emotions of other staff.					
3	I put myself forward to lead the teams when appropriate					
4	I acknowledge and appreciate the efforts of others					
5	I respect the team's decision					
6	I seek contribution from others					
7	I involve the right people at the right time					
8	I share my knowledge with others					
9	I collaborate with others to add value to patient care.					
10	I am comfortable managing conflicts of interests					
Domain:3	DUTY MANAGEMENT	Always (5)	A Lot of Time (4)	Some Of the Time (3)	Very Little (2)	None of the Time (1)
1	I deliver safe and effective care to patients during my scheduled shift.					
2	I support team members in understanding their roles and responsibilities					
3	I take action when resources are not being used efficiently					
4	I seek feedback from patients, staff, and supervisors when developing new ideas and plans.					
5	I take responsibility to improve staff performance					
6	I maintain a safe environment for patients, visitors, and staff in my unit.					
7	I align unit goals with hospital strategic goals					
8	I contribute to patient care by organizing the nursing care team					

9	I contribute to staff learning and development opportunities.					
10	I fulfill my legal and professional responsibilities to keep people safe from harm during my shift.					
Domain4	SETTING DIRECTION AND MAKING DECISION	Always (5)	A Lot of Time (4)	Some Of the Time (3)	Very Little (2)	None of the Time (1)
1	I influence others to use their knowledge to achieve best practice outcomes					
2	I have a clear vision for the future.					
3	I establish a foundation that enables individuals and teams to make appropriate decisions.					
4	I encourage and motivate the team					
5	I communicate staff needs and expectations in a respectful manner.					
6	I minimize distractions and help maintain focus on priorities.					
7	I promote professional ethics in all situations among staff.					
8	I hold myself accountable for incidents occurring in the unit.					
9	I create a clear pathway for developing professionalism among staff.					
10	I provide clear, specific, and appropriate direction.					