Hunan Daxue Xuebao/Journal of Hunan University Natural Sciences
ISSN：1674-2974 | CN 43-1061 / N

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

ASSESSMENT OF HEAD NURSES' KNOWLEDGE AND SKILLS REGARDING CLINICAL LEADERSHIP

ATIF MOHAMMED ALSADI*

PhD Degree in Nursing Administration, Nursing Administration Department, Faculty of Nursing, Cairo University, Egypt. *Corresponding Author Email: amssaadi@uqu.edu.sa

SAHAR HASSAN ALY EL BANAN

Professor, Nursing Administration Department, Faculty of Nursing, Cairo University, Egypt.
Email: sherif.tours@yahoo.com

AMAL HEBASHY

Professor, Nursing Administration Department, Faculty of Nursing, Cairo University, Egypt.
Email: dr.amal.fon@gmail.com

Abstract

Clinical leadership enables head nurses to translate clinical expertise into safe, high-quality, and well-coordinated patient care, yet evidence on the actual competence of first-line nurse managers in Saudi hospitals remains limited. This study aimed to assess head nurses' knowledge and skills regarding clinical leadership and to examine the relationship between knowledge, skills, and selected personal characteristics. A descriptive correlational design was used, representing the baseline assessment phase of a larger doctoral study. The study was conducted at Al-Noor Specialist Hospital, Makkah, Kingdom of Saudi Arabia, and included all head nurses working in the hospital (n = 25). Data were collected between June and July 2025 using three tools: a personal characteristics data sheet, a 25-item clinical leadership knowledge questionnaire, and a 38-item clinical leadership skills observational checklist structured around five competency domains. The total mean knowledge score was 7.40 ± 1.53 out of 25 (29.6%), and 80.0% of head nurses had an unsatisfactory level of knowledge (< 60%). The total mean observed skills score was 59.60 ± 9.22 out of 76 (78.4%); 60.0% of head nurses demonstrated a high level and 40.0% a moderate level of skills. The weakest skill domain was demonstrating personal qualities (60.5%), while the lowest-performed behaviors included speaking out when ethics are compromised, actively seeking others' views, providing a clear purpose and direction, and involving others in evaluating services. A statistically significant positive correlation was found between knowledge and skills (r = 0.57, p < 0.001). Prior clinical leadership training was significantly associated with knowledge (F = 2.90, p = 0.03). Head nurses therefore show a marked deficit in formal clinical leadership knowledge despite relatively adequate routine leadership practice, which supports the need for structured, competency-based clinical leadership training for head nurses.

Index Terms: *Clinical Leadership, Competency Assessment, First-Line Nurse Managers, Head Nurses, Knowledge, Leadership Skills, Nursing Management, Saudi Arabia.*

1. INTRODUCTION

Contemporary healthcare organizations operate in an environment of rising patient acuity, rapid technological change, strict accreditation standards, and growing expectations for evidence-based, person-centered care. In this environment, the quality and safety of care depend not only on the technical competence of clinicians but also on their ability to lead care at the point of service. Clinical leadership refers to the capacity of healthcare professionals to apply their clinical expertise, interpersonal competence, and up-to-date evidence to guide, support, and influence colleagues

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

toward high-quality patient care and a culture of continuous improvement [1], [2]. Unlike positional leadership, clinical leadership is exercised close to the patient, and it is expressed through role modeling, effective communication, collaborative decision making, and the continuous improvement of clinical services [3], [4]. A growing body of evidence links clinical leadership to positive outcomes for patients, nurses, and organizations. Systematic and empirical studies have associated nurses' clinical leadership with improved quality of care and patient safety, stronger teamwork, interprofessional collaboration across specialties, and favorable nurse outcomes such as flourishing and extra-role behavior [1], [5], [6], [7].

Effective clinical leaders are described as clinically credible, ethically grounded, approachable, and able to communicate a clear purpose, to involve others in decisions, and to use data and feedback to improve services [5], [8]. Head nurses occupy a pivotal position in translating these attributes into everyday practice. As first-line nurse managers, they are responsible for unit operations, staffing, resource utilization, quality and safety, and the professional development of staff nurses, while also serving as clinical role models. However, head nurses are often promoted on the basis of clinical expertise or seniority rather than formal leadership preparation, and the administrative workload of the role may limit the time available for clinical leadership activities [9].

Studies of nurse managers have reported variable and frequently moderate levels of leadership behaviors and have repeatedly highlighted the lack of formal education in clinical leadership among nurse managers [10], [11], [12]. In the Kingdom of Saudi Arabia, the health sector is undergoing extensive transformation, with increasing emphasis on quality, accreditation, and the development of a competent national nursing workforce. Saudi studies have described clinical leadership behaviors among critical care nurses and registered nurses and the leadership practices of nurse managers, but they have relied mainly on self-reported perceptions [13], [10], [14].

Few studies have combined an objective test of head nurses' clinical leadership knowledge with direct observation of their clinical leadership skills, and evidence from hospitals serving the large and seasonal populations of the Makkah region is scarce. Identifying head nurses' actual knowledge and skill gaps is a necessary first step for designing targeted, needs-based leadership development programs [15], [16].

1.1 Aim of the Study

This study aimed to assess head nurses' knowledge and skills regarding clinical leadership at a governmental specialist hospital in Makkah, Kingdom of Saudi Arabia. The study sought to answer the following research questions: 1) what is the level of head nurses' knowledge regarding clinical leadership? 2) What is the level of head nurses' observed clinical leadership skills? 3) Is there a relationship between head nurses' clinical leadership knowledge and skills? 4) Are head nurses' clinical leadership knowledge and skills related to their personal characteristics?

2. METHODS

2.1 Research Design

A descriptive correlational research design was used. The data reported in this paper represent the baseline (assessment) phase of a larger doctoral research project on clinical leadership development for head nurses conducted at the Faculty of Nursing, Cairo University.

2.2 Setting

The study was conducted at Al-Noor Specialist Hospital, a 500-bed governmental specialist hospital located near the Muzdalifah site in Makkah Al-Mukarramah, western Kingdom of Saudi Arabia. The

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

hospital operates under the supervision of the Directorate of Health Affairs in Makkah and provides free therapeutic and medical services. Data were collected from the medical, surgical, orthopedic, neurosurgery, urology, burn, pediatric, plastic surgery, cardiovascular, oncology, and ophthalmology departments.

2.3 Participants

A convenience sample of all head nurses (n = 25) who were working in the previously mentioned departments at the time of data collection and who were able to read and write English was included.

2.4 Data Collection Tools

Three tools were used. The first tool was a head nurses' personal characteristics data sheet developed by the researchers to collect data on age, gender, marital status, educational level, years of experience in the hospital, years of experience in the current workplace, and previous attendance of clinical leadership training.

The second tool was a clinical leadership knowledge questionnaire developed by the researchers after reviewing the relevant literature [1], [5]. It consisted of 25 multiple-choice items distributed across four dimensions: the concept of clinical leadership (five items), the importance of clinical leadership (six items), the characteristics of clinical leaders (six items), and the components of clinical leadership (eight items). Each correct answer was scored one and each incorrect answer zero. Scores were summed and converted into a percentage; a score of 60% or more was considered satisfactory and a score below 60% unsatisfactory. The third tool was a clinical leadership skills observational checklist developed by the researchers based on competency-based clinical leadership frameworks [2], [8].

It consisted of 38 observable behaviors grouped into five domains: demonstrating personal qualities (eight items), working with others (six items), managing services (eight items), improving services (eight items), and setting direction (eight items). Each behavior was scored two (done), one (not done), or zero (not applicable), giving a maximum total score of 76. The total score was converted into a percentage; scores of 75% or more were considered high, 50% to less than 75% moderate, and less than 50% low.

2.5 Validity and Reliability

Face and content validity of the tools were established by a panel of three experts in nursing administration from the Faculty of Nursing, Cairo University, who reviewed the tools for content coverage, clarity, wording, length, and format; minor modifications were made accordingly. Internal consistency was assessed using Cronbach's alpha, which was 0.95 for the knowledge questionnaire and 0.89 for the skills observational checklist.

2.6 Data Collection Procedure

After official approvals were obtained, the researcher met the head nurses, explained the purpose of the study, and obtained their written informed consent. The knowledge questionnaire was self-administered and took approximately 20 to 30 minutes to complete. The skills checklist was completed by the researcher through direct, non-participant observation of each head nurse during routine morning and afternoon shifts. Data were collected over approximately one month, from mid-June to mid-July 2025.

2.7 Ethical Considerations

Ethical approval was obtained from the Scientific Research Ethics Committee, Faculty of Nursing, Cairo University, and official permission was obtained from the administration of Al-Noor Specialist Hospital. Participation was voluntary, and written informed consent was obtained from every participant after

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

the nature and purpose of the study had been explained. Participants were assured of the confidentiality of their data, that the study posed no risk, and of their right to withdraw at any time without consequences.

2.8 Statistical Analysis

Data were analyzed using IBM SPSS Statistics version 29.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize personal characteristics, knowledge, and skills. Pearson's correlation coefficient was used to examine the relationship between knowledge and skills scores, and one-way analysis of variance (ANOVA) was used to compare knowledge and skills scores across categories of personal characteristics. A p-value of less than 0.05 was considered statistically significant.

3. RESULTS

3.1 Personal Characteristics of Head Nurses

Table 1 shows that nearly half of the head nurses (48.0%) were aged 30 to less than 40 years, 60.0% were female, and 56.0% were married. Most held a master's degree in nursing (60.0%). Less than half (44.0%) had five to less than ten years of experience in the hospital, and more than half (52.0%) had five to less than ten years of experience in their current workplace. More than half of the head nurses (52.0%) had never attended training on clinical leadership.

Table 1: Personal Characteristics of Head Nurses (N = 25)

Personal characteristics	No.	%
Age (years)		
30 – < 40	12	48.0
40 – < 50	9	36.0
50 – < 60	4	16.0
Gender		
Male	10	40.0
Female	15	60.0
Marital status		
Single	11	44.0
Married	14	56.0
Educational level		
Bachelor's degree in nursing	10	40.0
Master's degree in nursing	15	60.0
Years of experience in the hospital		
5 – < 10	11	44.0
10 – < 15	7	28.0
≥ 15	7	28.0
Years of experience in the current workplace		
< 5	4	16.0
5 – < 10	13	52.0
10 – < 15	3	12.0
≥ 15	5	20.0
Previous training in clinical leadership		
Yes	12	48.0
No	13	52.0

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

3.2 Head Nurses' Knowledge Regarding Clinical Leadership

As presented in Table 2, the total mean knowledge score was 7.40 ± 1.53 out of a possible 25, corresponding to a mean percentage score of 29.6%. All four knowledge dimensions scored well below the 60% satisfactory cut-off; the lowest was the characteristics of clinical leaders (26.7%) and the highest was the importance of clinical leadership (33.3%). Accordingly, the majority of head nurses (80.0%) had an unsatisfactory level of clinical leadership knowledge, and only 20.0% reached a satisfactory level.

Table 2: Head Nurses' Knowledge Regarding Clinical Leadership Dimensions (N = 25)

Knowledge dimension	No. of items	Max. score	Mean	SD	Mean %
Concept of clinical leadership	5	5	1.40	1.91	28.0
Importance of clinical leadership	6	6	2.00	2.82	33.3
Characteristics of clinical leaders	6	6	1.60	2.00	26.7
Components of clinical leadership	8	8	2.40	3.32	30.0
Total knowledge	25	25	7.40	1.53	29.6
Knowledge level					
Satisfactory (≥ 60%)			No. = 5		20.0
Unsatisfactory (< 60%)			No. = 20		80.0

SD = standard deviation; Mean % = mean score / maximum score × 100.

3.3 Head Nurses' Observed Clinical Leadership Skills

Table 3 shows that the total mean observed skills score was 59.60 ± 9.22 out of 76 (78.4%). The highest domain scores were for managing services and setting direction (87.5% each), followed by working with others (82.7%) and improving services (75.0%), whereas demonstrating personal qualities had the lowest score (60.5%). Overall, 60.0% of head nurses demonstrated a high level of clinical leadership skills and 40.0% a moderate level, while none showed a low level. Fig. 1 contrasts the knowledge and skills profiles against their respective cut-off points.

Table 3: Head Nurses' Observed Clinical Leadership Skills Domains (N = 25)

Skills domain	No. of items	Max. score	Mean	SD	Mean %
Demonstrating personal qualities	8	16	9.68	5.62	60.5
Working with others	6	12	9.92	1.20	82.7
Managing services	8	16	14.00	0.80	87.5
Improving services	8	16	12.00	0.80	75.0
Setting direction	8	16	14.00	0.80	87.5
Total skills	38	76	59.60	9.22	78.4
Skills level					
High (≥ 75%)			No. = 15		60.0
Moderate (50% – < 75%)			No. = 10		40.0
Low (< 50%)			No. = 0		0.0

SD = standard deviation; Mean % = mean score / maximum score × 100.

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

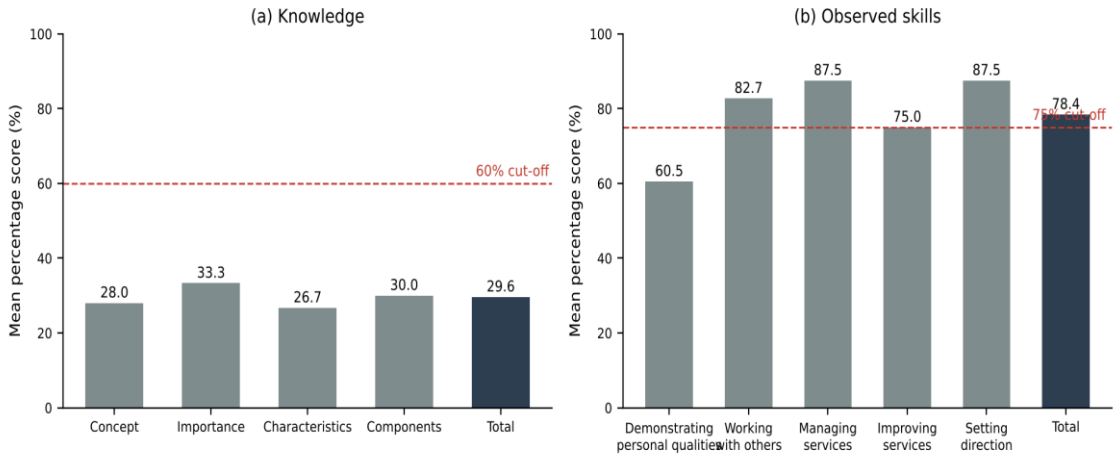

Figure 1: Mean Percentage Scores Of Head Nurses' Clinical Leadership (A) Knowledge Dimensions And (B) Observed Skills Domains (N = 25). Dashed Lines Mark the Satisfactory Knowledge Cut-Off (60%) And The High Skills Cut-Off (75%); Knowledge Fell Far Below Its Threshold in Every Dimension, Whereas Only the Personal Qualities Domain Fell Clearly Below the High-Skills Threshold

Table 4 lists the observed behaviors with the lowest item mean scores. The behaviors least often performed were working with others to constructively evaluate services (0.00 ± 0.00), speaking out when ethics or values are being compromised, actively seeking contributions and views from others, providing others with a clear purpose and direction, using feedback from patients and service users to improve service delivery, and influencing others to use knowledge and evidence to achieve best practice (0.08 ± 0.40 each). Remaining calm and focused under pressure (0.72 ± 0.98) and applying learning to practical work (1.12 ± 1.01) were also weak. By contrast, behaviors such as acting in an open, honest, and inclusive manner, sharing information and resources, delivering safe services within allocated resources, and taking action on shortfalls in patient safety were observed among all head nurses (2.00 ± 0.00).

Table 4: Lowest-Performed Observed Clinical Leadership Behaviors among Head Nurses (N = 25)

Observed behavior	Domain	Mean	SD
Work with others to constructively evaluate services	Improving services	0.00	0.00
Speak out when ethics or values are being compromised	Personal qualities	0.08	0.40
Actively seek contributions and views from others	Working with others	0.08	0.40
Provide others with clear purpose and direction	Managing services	0.08	0.40
Use feedback from patients, carers, and service users to improve service delivery	Improving services	0.08	0.40
Influence others to use knowledge and evidence to achieve best practice	Setting direction	0.08	0.40
Remain calm and focused under pressure	Personal qualities	0.72	0.98
Apply learning to practical work	Personal qualities	1.12	1.01
Plan workload and deliver commitments to consistently high standards	Personal qualities	1.20	1.00
Seek feedback on own strengths and limitations and modify behavior	Personal qualities	1.28	0.98

Possible item score range 0 – 2.

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

3.4 Relationship between Knowledge, Skills, and Personal Characteristics

A statistically significant moderate positive correlation was found between head nurses' total clinical leadership knowledge and skills scores ($r = 0.57$, $p < 0.001$), indicating that head nurses with higher knowledge scores tended to demonstrate better observed clinical leadership skills.

Table 5 shows that head nurses' knowledge scores did not differ significantly according to gender, age, marital status, educational level, or years of experience ($p > 0.05$). However, knowledge differed significantly according to previous attendance of clinical leadership training ($F = 2.90$, $p = 0.03$), with higher mean scores among trained head nurses (7.83 ± 1.34) than among those without training (7.00 ± 1.63). Observed skills scores did not differ significantly by gender, age, marital status, educational level, or years of hospital experience, but they differed significantly according to years of experience in the current workplace ($F = 3.10$, $p = 0.02$), with the highest mean among head nurses with 15 years or more, and according to previous clinical leadership training ($F = 7.90$, $p < 0.001$).

Table 5: Head Nurses' Clinical Leadership Knowledge and Skills Scores According To Personal Characteristics (N = 25)

Characteristic	Knowledge Mean ± SD	F	p	Skills Mean ± SD	F	p
Gender						
Male	7.80 ± 1.40	0.04	0.80	59.60 ± 0.51	0.01	0.99
Female	7.13 ± 1.60			59.60 ± 0.50		
Age (years)						
30 – < 40	7.33 ± 1.44	0.60	0.50	59.50 ± 0.52	0.06	0.90
40 – < 50	7.22 ± 1.56			59.55 ± 0.52		
50 – < 60	8.00 ± 2.00			60.00 ± 0.00		
Marital status						
Single	7.55 ± 1.29	0.40	0.40	59.45 ± 0.52	0.20	0.90
Married	7.29 ± 1.73			59.71 ± 0.46		
Educational level						
Bachelor	7.80 ± 1.03	1.60	0.20	59.40 ± 0.51	0.40	0.90
Master	7.13 ± 1.77			59.73 ± 0.45		
Years of experience in the hospital						
5 – < 10	7.18 ± 1.40	0.40	0.90	59.45 ± 0.52	0.15	0.80
10 – < 15	7.86 ± 1.57			59.71 ± 0.48		
≥ 15	7.29 ± 1.80			59.71 ± 0.48		
Years of experience in the current workplace						
< 5	7.50 ± 1.00	0.20	0.80	59.25 ± 0.50	3.10	0.02*
5 – < 10	7.31 ± 1.60			59.61 ± 0.50		
10 – < 15	7.00 ± 2.00			59.66 ± 0.57		
≥ 15	7.80 ± 1.79			59.80 ± 0.44		
Previous training in clinical leadership						
Yes	7.83 ± 1.34	2.90	0.03*	59.58 ± 0.51	7.90	< 0.001*
No	7.00 ± 1.63			59.62 ± 0.51		

*F = one-way ANOVA; * statistically significant at p < 0.05.*

4. DISCUSSION

This study assessed head nurses' knowledge and observed skills regarding clinical leadership in a large governmental specialist hospital in Makkah. The main findings were a marked deficit in formal clinical leadership knowledge, relatively high but uneven observed clinical leadership skills, a moderate positive correlation between knowledge and skills, and an association between previous leadership

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

training and better knowledge. The profile of the participating head nurses, who were mostly in early to middle adulthood, female, married, and with less than ten years of experience in their current workplace, is broadly similar to that reported for nurse managers in Riyadh [10] and in Türkiye [11]. A notable feature of the sample was that more than half of the head nurses had never received clinical leadership training. Kılınç et al. [11] likewise reported that most nurse managers had not received formal education in clinical leadership, and El Haddad et al. [9] found that nurse unit managers were highly experienced clinicians but relatively new to their managerial roles. Together, these findings reflect the common practice of appointing head nurses on the basis of clinical expertise rather than structured leadership preparation.

The most striking result was the low level of clinical leadership knowledge, with a mean score of less than one-third of the maximum and four in five head nurses falling below the satisfactory level. The deficit extended across all four dimensions, including the very concept of clinical leadership and the characteristics of clinical leaders. This finding may be explained by the limited exposure of head nurses to structured clinical leadership education, the predominantly managerial and administrative focus of their roles, and the tendency to equate clinical leadership with formal positional authority [1], [9]. It is consistent with Mrayyan [12], who identified substantial clinical leadership learning needs among nurses, and with the conceptual ambiguity of clinical leadership highlighted in recent reviews [1], [8]. In contrast, Jayachandra et al. [14] reported generally high knowledge of clinical leadership skills among registered nurses in a tertiary hospital in Riyadh, and Tlili et al. [17] reported satisfactory self-perceived clinical leadership among nurses in Tunisia. These differences may reflect differences in measurement, because the present study used an objective knowledge test whereas most previous studies relied on self-reported perceptions, which tend to overestimate competence.

In contrast to knowledge, the observed skills were relatively high, with 60% of head nurses at a high level and none at a low level. The strongest performance was in managing services and setting direction, which correspond to routine managerial responsibilities such as resource utilization, patient safety, and the implementation of new approaches. This pattern agrees with Taweel et al. [18], who reported a high level of clinical leadership practice among heads of nursing divisions, and with Ashour et al. [13], who found relatively high clinical leadership behaviors among Saudi critical care nurses. Alharbi and Almansour [10] and Khader et al. [7], however, reported moderate leadership behaviors among nurse managers and nurses, suggesting that the level of clinical leadership practice varies with organizational context and with the method of assessment [19]. Despite the relatively high total skills score, important weaknesses were observed. Demonstrating personal qualities was the weakest domain, and several behaviors central to clinical leadership were rarely performed, including speaking out when ethics are compromised, actively seeking the views of others, providing a clear purpose and direction, involving patients' feedback and colleagues in evaluating services, and influencing others to use evidence. These behaviors represent the relational, ethical, and evidence-oriented core of clinical leadership described in recent qualitative and cross-sectional studies [5], [4], [16]. Mrayyan et al. [5] emphasized that effective clinical nursing leadership is characterized by high ethical standards, appreciation of others, and actions consistent with moral principles, while Palermo et al. [16] stressed open dialogue, listening, and the mediation of different perspectives as essential components of clinical leadership development. Similarly, the limited use of data and feedback for service improvement is a recognized gap, given the potential of data analytics to strengthen managerial decision making in nursing [20]. These findings suggest that head nurses performed the transactional, task-related aspects of their role well but were less engaged in the transformational, participative, and ethical aspects of clinical leadership. The apparent gap between low knowledge and comparatively better skills deserves attention. Head nurses may have acquired many leadership behaviors experientially, through years of clinical practice, role modeling, and organizational routines, without

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

a corresponding conceptual understanding of clinical leadership. Alilyyani et al. [21] similarly found that nursing experience was linked to the development of leadership skills among Saudi nurses. Nevertheless, the significant positive correlation between knowledge and skills ($r = 0.57$) indicates that head nurses with better knowledge tended to demonstrate better leadership behaviors, supporting the view that conceptual knowledge provides a foundation for consistent, intentional leadership practice [2], [3]. The association between previous training and knowledge further supports the value of formal education, which is consistent with evidence that structured clinical leadership training and experiential learning approaches, including simulation, improve leadership competencies [15], [22]. Nachtergaele et al. [23] also identified education, coaching, and organizational support as key factors that influence the development of clinical leadership, and Tlili et al. [17] showed that organizational support shapes nurses' clinical leadership.

The lack of significant differences in knowledge according to age, educational level, and years of experience suggests that neither seniority nor a postgraduate degree alone guarantees clinical leadership knowledge. This underlines the importance of specific, competency-based clinical leadership education rather than reliance on general academic qualifications or tenure. The significant difference in observed skills according to experience in the current workplace may reflect the familiarity of longer-serving head nurses with unit routines, staff, and resources, which facilitates the enactment of leadership behaviors [9], [21].

4.1 Limitations

This study has several limitations. It was conducted in a single governmental hospital with a small convenience sample of 25 head nurses, which limits generalizability and statistical power. Skills were assessed by a single observer, which may introduce observer bias, and the presence of the observer may have influenced head nurses' behavior (Hawthorne effect). In addition, the knowledge questionnaire and the observational checklist were researcher-developed tools; although they showed good validity and reliability, further psychometric testing in larger samples is recommended. Finally, the cross-sectional nature of the data does not allow causal inferences regarding the relationship between knowledge and skills.

5. CONCLUSION

Head nurses at the study setting demonstrated a marked deficit in clinical leadership knowledge, with most of them scoring at an unsatisfactory level, while their observed clinical leadership skills were relatively high in managing services and setting direction but weak in demonstrating personal qualities and in participative, ethical, and evidence-informed leadership behaviors. Knowledge and skills were positively correlated, and previous clinical leadership training was associated with better knowledge. These findings highlight the need for structured, needs-based clinical leadership development for head nurses. Accordingly, the following recommendations are suggested:

1) Hospital administrators should design and implement structured, competency-based clinical leadership training programs for head nurses, focusing on the conceptual foundations of clinical leadership and on the weakest observed domains.
2) Newly appointed head nurses should receive clinical leadership preparation before or soon after assuming their managerial role.
3) Clinical leadership competencies should be integrated into head nurses' job descriptions, performance appraisal, and promotion criteria.
4) Head nurses should be encouraged to involve staff, patients, and colleagues in evaluating and improving services and to use data and evidence in decision making.

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

5) Future multicenter studies with larger samples and multiple trained observers are needed to confirm these findings and to evaluate the effectiveness of clinical leadership interventions.

Acknowledgment

The authors wish to thank the head nurses of Al-Noor Specialist Hospital, Makkah, for their cooperation and participation, and the hospital administration for facilitating data collection. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The authors declare no conflict of interest.

References

1) C. Guibert-Lacasa and M. Vázquez-Calatayud, “Nurses’ Clinical Leadership in the Hospital Setting: A Systematic Review,” J. Nursing Management, vol. 30, no. 4, pp. 913-925, 2022, doi:10.1111/jonm.13597.

2) D. Stanley, C.L. Bennett, and A.H. James, eds., Clinical Leadership in Nursing and Healthcare, third ed. Hoboken, N.J.: Wiley-Blackwell, 2022.

3) G.R. Ledlow, M. Bosworth, and T. Maryon, Leadership for Health Professionals: Theory, Skills, and Applications, fourth ed. Burlington, Mass.: Jones & Bartlett Learning, 2023.

4) S. Nachtergaele, N. De Roo, J. Allart, P. De Vriendt, M. Embo, and E. Cornelis, “Clinical Leadership in Nursing Homes: A Qualitative Study of Healthcare Professionals’ Perspectives on Concept and Characteristics,” Nursing Open, vol. 11, no. 6, e2166, 2024, doi:10.1002/nop2.2166.

5) M.T. Mrayyan, A. Algunmeeyn, H.Y. Abunab, O.A. Kutah, I. Alfayoumi, and A.A. Khait, “Attributes, Skills and Actions of Clinical Leadership in Nursing as Reported by Hospital Nurses: A Cross-Sectional Study,” BMJ Leader, vol. 7, no. 3, pp. 203-211, 2023, doi:10.1136/leader-2022-000672.

6) A. Braam, J.D.H. van Wijngaarden, M. Vollmann, C.G.J.M. Hilders, and M. Buljac-Samardžić, “Clinical Leaders Crossing Boundaries: A Study on the Role of Clinical Leadership in Crossing Boundaries Between Specialties,” PLOS ONE, vol. 18, no. 11, e0294264, 2023, doi:10.1371/journal.pone.0294264.

7) W. Khader, G. Abu Shosha, I.A. Oweidat, S. Al Omar, M.R. Alosta, and A.J. Nashwan, “The Relationship Between Clinical Leadership Behaviors, Flourishing, and Extra-Role Behavior Among Nurses: A Cross-Sectional Study,” J. Nursing Management, vol. 2025, article 5438358, 2025, doi:10.1155/jonm/5438358.

8) O. Moura Ramos, J. Gomes, É. Jesus, and B. Araújo, “Behaviors and Strategies in Clinical Leadership in Nursing: A Scoping Review,” Millenium – J. Education, Technologies, and Health, vol. 2, no. 26, e37839, 2025, doi:10.29352/mill0226.37839.

9) M. El Haddad, A. Faithfull-Byrne, L. Thompson, G. Wilkinson, and C. Moss, “Nurse Unit Managers’ Work and Impacts on Clinical Leadership: A Cross-Sectional Study,” Collegian, vol. 29, no. 5, pp. 635-644, 2022, doi:10.1016/j.colegn.2022.02.004.

10) S. Alharbi and A. Almansour, “Leadership Behaviours and Practices Assessment Among Nurse Managers in Riyadh Second Health Cluster,” BMC Nursing, vol. 24, article 969, 2025, doi:10.1186/s12912-025-03618-4.

11) K.Ö. Kılınç, Ş. Kurt, and H. Öztürk, “Evaluating the Clinical Leadership Levels of Nurse Managers,” Clinical and Experimental Health Sciences, vol. 12, pp. 556-563, 2022, doi:10.33808/clinexphealthsci.820506.

12) M.T. Mrayyan, “A Comparative Study of Clinical Leadership Needs Analysis (CLeeNA) as Perceived by Nurses,” J. Clinical Nursing, vol. 31, no. 19-20, pp. 2754-2764, 2022, doi:10.1111/jocn.16089.

13) H.M.A.A. Ashour, M.A. Banakhar, and N.A.E. Elseesy, “Clinical Leadership Behaviors among Critical Care Nurses in Private and Governmental Hospital: A Cross-Sectional Survey,” Int’l J. Nursing Sciences, vol. 9, no. 3, pp. 357-363, 2022, doi:10.1016/j.ijnss.2022.06.017.

14) Knowledge on Clinical Leadership Skills among Registered Nurses in Selected Units of a Tertiary Hospital, Riyadh, KSA: A Cross-Sectional Study,” Research Square, preprint, 2025, doi:10.21203/rs.3.rs-7784879/v1.

DOI: 10.5281/zenodo.24387671
Vol: 63 | Issue: 11 | 2026

15) M.S. Nieuwboer, R. van der Sande, M.G.M. Olde Rikkert, M.A. van der Marck, and M. Perry, “Clinical Leadership Training in Integrated Primary Care Networks: A Qualitative Evaluation,” Integrated Healthcare J., vol. 4, no. 1, e000086, 2022, doi:10.1136/ihj-2021-000086.

16) A. Palermo, M. Bianchi, S. Cavatorti, and L. Bonetti, “Identification of the Components of a Complex Intervention to Develop Clinical Leadership in Specialist Clinical Nurses: A Qualitative Study with Interviews and Stakeholders’ Consensus,” J. Healthcare Leadership, vol. 18, article 581117, 2026, doi:10.2147/JHL.S581117.

17) M.A. Tlili, M. Haoues, H. Kamoun, C. Rjeb, M.S. Alrashedi, N.A. Alrashidi, H.M.F. Alshamry, N.F.S. Alenzi, T.S. Alshammari, L.W.F. Alshammari, and A.Z. Ali, “Exploring How Organizational Support Shapes Nurses’ Clinical Leadership: Evidence From Tunisia,” BMC Nursing, vol. 25, article 130, 2026, doi:10.1186/s12912-026-04294-8.

18) A. Taweel, S. Hamoud, and A. Belal, “Clinical Leadership Practice in the Clinical Environment Among Heads of Nursing Divisions,” Tishreen Univ. J. Research and Scientific Studies – Health Sciences Series, vol. 46, no. 6, pp. 143-156, 2024.

19) A. Braam, M. Buljac-Samardžić, C.G.J.M. Hilders, and J.D.H. van Wijngaarden, “Similarities and Differences between Nurses’ and Physicians’ Clinical Leadership Behaviours: A Quantitative Cross-Sectional Study,” J. Nursing Management, vol. 2023, article 8838375, 2023, doi:10.1155/2023/8838375.

20) N. Darach, M.S. Kim, W. Wisesrith, and E.G. Collins, “Data Analytics and Administrative Decision-Making in Nursing Management: A Systematic Review,” J. Nursing Management, vol. 2025, article 4344147, 2025, doi:10.1155/jonm/4344147.

21) B. Alilyyani, E. Althobaiti, M. Al-Talhi, T. Almalki, T. Alharthy, M. Alnefaie, H. Talbi, and A. Abuzaid, “Nursing Experience and Leadership Skills Among Staff Nurses and Intern Nursing Students in Saudi Arabia: A Mixed Methods Study,” BMC Nursing, vol. 23, article 87, 2024, doi:10.1186/s12912-024-01750-1.

22) P. Xuto, P. Prasitwattanaseree, T. Chaiboonruang, L. Khiaokham, K. Nimarangkul, D. Bressington, and C. Miyata, “Developing Clinical Leadership Through High-Fidelity Obstetric Simulation: A Multimethods Study in Thai Nursing Students,” Clinical Simulation in Nursing, vol. 102, article 101720, 2025, doi:10.1016/j.ecns.2025.101720.

23) S. Nachtergaele, N. De Roo, J. Allart, P. De Vriendt, M. Embo, and E. Cornelis, “Exploring Influencing Factors to Clinical Leadership Development: A Qualitative Study With Healthcare Professionals in Flemish Nursing Homes,” BMC Health Services Research, vol. 24, article 1169, 2024, doi:10.1186/s12913-024-11613-9.