

CHANGES FOLLOWING A VISIONARY LEADERSHIP EDUCATION PROGRAM IN NURSE MANAGERS' LEADERSHIP COMPETENCE, STAFF-PERCEIVED LEADERSHIP, AND STAFF LOYALTY: A QUASI-EXPERIMENTAL STUDY

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Abstract

Background: Nurse Managers require leadership knowledge and applied competencies to communicate a future-oriented vision, support staff, and lead service change. Evidence from Saudi Arabia also indicates that nurse-manager leadership is related to staff engagement and organizational commitment. **Purpose:** To examine changes in nurse managers' visionary leadership knowledge and leadership competency after a Visionary Leadership Education Program (VLEP), and accompanying changes in staff nurses' evaluations of visionary leadership and staff loyalty. **Methods:** A one-group, pretest-posttest quasi-experimental study was conducted in a maternity department at a tertiary hospital in Taif, Saudi Arabia. Participants were 35 nurse managers and 255 staff nurses. The four-week VLEP comprised eight interactive sessions. Outcomes were measured before and two weeks after the program using a 20-item knowledge questionnaire, a 17-item competency scale, a 14-item staff evaluation scale, and a 13-item staff loyalty scale. Paired t-tests, Pearson correlations, and multiple linear regression were used. **Results:** Nurse Managers' knowledge increased from 10.37 to 15.91 of 20 ($t = 12.54$, $p < .001$, $d_z = 2.12$), and competency increased from 41.91 to 59.80 of 68 ($t = 17.70$, $p < .001$, $d_z = 2.99$). Staff ratings of visionary leadership and loyalty also increased significantly (both $p < .001$). Staff-rated visionary leadership was positively correlated with loyalty ($r = .677$), competency ($r = .641$), and knowledge ($r = .356$). **Conclusion:** The VLEP was associated with substantial improvement in nurse managers' leadership knowledge and competency, alongside more positive staff perceptions and loyalty. Controlled, multicenter studies with longer follow-up are needed.

Keywords: Leadership Education; Nurse Managers; Nursing Leadership; Staff Loyalty; Saudi Arabia.

INTRODUCTION

Nurse managers translate organizational priorities into the routines of clinical care. They allocate staff, coordinate communication, address conflict, support professional development, and help teams interpret change. This work is especially consequential in maternity services, where clinical priorities can shift quickly and care depends on reliable interdisciplinary coordination. Nursing leadership is associated with workforce and work-environment outcomes, including job satisfaction, empowerment, organizational commitment, and the intention to remain in employment (AbuAlRub & Alghamdi, 2012; Al-Yami et al., 2018; Cummings et al., 2010, 2018; Wong & Laschinger, 2013).

Visionary leadership offers a useful orientation for the nurse-manager role because it combines future-focused thinking with clear communication, relationship building, staff empowerment, and the capacity to mobilize a shared purpose. While visionary leadership overlaps conceptually with transformational leadership, its distinctive emphasis is on articulating and sustaining a credible picture of a desired future. Such communication can support collective action during organizational change (Fischer, 2016; Gochmann et al., 2022; Stam et al., 2014). In Saudi Arabia, leadership development is relevant to the nursing transformation agenda and to the workforce stability required for health-system reform. Saudi studies have demonstrated associations between nurse-manager leadership, organizational commitment, satisfaction, and staff work engagement (AbuAlRub & Alghamdi, 2012; Al-Yami et al., 2018; Alluhaybi et al., 2024). National nursing transformation has also highlighted the need to strengthen leadership capacity in parallel with service development and workforce planning (Alsufyani et al., 2020).

Leadership education is commonly recommended, yet many programs provide limited information about the intervention content, competence assessment, and staff-level outcomes. Systematic reviews indicate that targeted educational interventions can develop nursing leadership; however, the content, measures, and outcomes remain heterogeneous (Cummings et al., 2021; Sfantou et al., 2021). Experiential and case-based leadership education has shown improvements in frontline leader empowerment and nurse-manager problem-solving and decision-making skills (Abel et al., 2020; Kusakli & Sönmez, 2024). The present study addressed this gap by evaluating a structured Visionary Leadership Education Program (VLEP) for nurse managers and examining accompanying changes in staff nurses' evaluations of leadership and loyalty. The purpose was to examine changes in nurse managers' visionary leadership knowledge and leadership competency after the VLEP, and accompanying changes in staff nurses' evaluation of visionary leadership and staff loyalty.

METHODS

Research Design

A one-group, pretest-posttest quasi-experimental design was used. Random allocation was not feasible because the educational program was implemented as part of professional development in a clinical service. The study report was prepared with reference to the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) statement, and the intervention description was organized in line with the Template for Intervention Description and Replication (TIDieR) checklist (Des Jarlais et al., 2004; Hoffmann et al., 2014).

Setting and Participants

The study was conducted between [insert study months and year] in the maternity department of a tertiary hospital in Taif, Saudi Arabia. In accordance with the journal requirement to avoid identification of a research site, the hospital name is not reported. Eligible nurse managers included head nurses and supervisors responsible for direct

leadership of staff nurses in the participating department. Eligible staff nurses were registered nurses and charge nurses who reported to the participating nurse managers and had worked in the department during the study period. All eligible nurse managers (N = 60) were invited; 35 consented and completed the study. All 255 staff nurses working under the participating managers were invited and completed the staff questionnaire. Nurse managers were recruited purposively because they were the direct recipients of the VLEP. Staff nurses were recruited through total population sampling within the units managed by participating nurse managers. An a priori power analysis was not documented; therefore, the study should be interpreted as a pragmatic evaluation of an available clinical population.

Intervention

The VLEP was delivered over four weeks in eight sessions held twice weekly. Each session lasted approximately 90–120 minutes and was facilitated by the principal investigator. The program was intended to develop knowledge and observable leadership competencies related to future-oriented communication, motivation, coaching, conflict management, team leadership, and change implementation. Sessions combined concise teaching, case discussions, role-play, reflective questions, and small-group application to common unit-level leadership situations. Attendance was monitored; participants received a structured learning booklet and facilitator-guided activities.

Table 1: Visionary Leadership Education Program Content and Delivery

Session	Core content	Learning activities	Intended capability
1	Introduction to visionary leadership	Interactive lecture and reflection	Describe the purpose and attributes of visionary leadership
2	Articulating a clear vision	Vision-building exercise and discussion	Connect unit goals with organizational priorities
3	Inspirational communication and motivation	Role-play and feedback	Communicate purpose and encourage staff engagement
4	Innovation and intellectual stimulation	Case analysis	Support creative problem-solving and learning
5	Shared vision and staff empowerment	Small-group planning	Involve staff in goals and decision making
6	Coaching, mentoring, and trust	Coaching simulation	Deliver constructive feedback and development support
7	Conflict management and leading change	Conflict scenario and change-plan exercise	Use structured approaches to resolve conflict and guide improvement
8	Action planning and reflection	Individual action plan and peer feedback	Translate learning into a unit-level leadership plan

Note: The VLEP was delivered by the principal investigator using a standardized session plan, PowerPoint materials, clinical examples, role-play, and reflective activities.

Measurements and Data Collection

Four instruments were administered at baseline and again two weeks after program completion. Nurse Managers completed the knowledge questionnaire and leadership competency scale. Staff nurses completed the staff evaluation of nurse managers'

visionary leadership scale and the staff loyalty scale. The two-week post-program interval was chosen to allow initial application of learning in the clinical setting while minimizing attrition.

Visionary leadership knowledge questionnaire. The 20-item multiple-choice questionnaire assessed knowledge of visionary leadership principles and applied leadership practices, including communication, coaching, conflict resolution, empowerment, and change management. One point was awarded for each correct answer; total scores ranged from 0 to 20, with higher scores indicating greater knowledge.

Leadership competency scale. The 17-item scale assessed observable leadership competencies across communication, coaching and mentoring, conflict resolution, collaboration, team leadership, change initiation, and professional presentation. Items were rated from 1 (rarely demonstrates the skill) to 4 (consistently demonstrates the skill at a high level), yielding a total score of 17–68. The scale was adapted and contextualized by the research team from leadership competency domains used in nursing-management development programs.

Staff evaluation of nurse managers' visionary leadership scale. This 14-item scale was completed by staff nurses to evaluate visible visionary leadership behaviors of their immediate nurse manager. Items were rated on a five-point Likert scale; total scores ranged from 14 to 70, with higher scores reflecting more positive evaluation.

Staff loyalty scale. This 13-item, five-point Likert scale measured sense of ownership, willingness to stay, and trust. Scores ranged from 13 to 65, with higher scores indicating stronger loyalty-related attitudes.

Face and content validity of the instruments, program content, and educational booklet were assessed by a panel of five nursing-administration experts. A pilot test with 29 participants from a different hospital assessed clarity, timing, feasibility, and internal consistency; pilot participants were excluded from the main analysis. Cronbach's alpha values in the pilot were .859 for the knowledge questionnaire, .874 for the leadership competency scale, .823 for the staff evaluation scale, and .905 for the staff loyalty scale. These values indicated acceptable to excellent internal consistency (Cronbach, 1951; Tavakol & Dennick, 2011).

For descriptive interpretation only, post-program scores at or above 75% of the maximum possible score were considered an indication of strong achievement of the intended learning outcomes. This criterion should not be interpreted as a direct measure of subjective satisfaction, because no satisfaction or acceptability scale was administered.

Data Analysis

Data were analyzed using SPSS version 22. Descriptive statistics summarized participant characteristics and outcome scores. Paired t-tests examined pre-post changes. Pearson correlation coefficients assessed associations among post-program knowledge, leadership competency, staff evaluation of visionary leadership, and staff loyalty. Multiple linear regression examined predictors of staff evaluation of visionary leadership. Cohen's

dz was calculated from paired t-statistics to describe effect magnitude (Cohen, 1988). Statistical significance was set at $p < .05$. Staff nurses were nested within nurse managers. The available dataset did not permit a multilevel reanalysis for this manuscript; consequently, inferential results from staff-level analyses should be interpreted cautiously because clustering may have narrowed standard errors. This issue is addressed as a limitation and should be addressed in future studies through multilevel modeling or generalized estimating equations.

Ethical Considerations

Ethical approval was obtained from the Institutional Review Board at Batterjee Medical College (approval no. DTMJ-002). Administrative permission was obtained from the participating hospital. All participants received study information and provided written informed consent before data collection. Participation was voluntary, no employment consequence was attached to refusal or withdrawal, and questionnaire data were coded and reported in aggregate form.

RESULTS

Thirty-five nurse managers and 255 staff nurses completed the pretest and posttest assessments. Nurse Managers had a mean age of 40.29 years ($SD = 7.65$), while staff nurses had a mean age of 32.77 years ($SD = 8.12$). Among nurse managers, 62.9% were head nurses and 37.1% were supervisors. Among staff nurses, 91.8% were staff nurses and 8.2% were charge nurses. Nurse Managers' knowledge and leadership competency increased significantly after the VLEP. Staff nurses also reported significantly higher evaluation of their nurse managers' visionary leadership and higher loyalty scores at the post-program assessment (Table 2).

Table 2: Changes in outcome scores before and after the Visionary Leadership Education Program

Outcome	Pre-test mean	Post-test mean	Mean difference (95% CI)	t	p	Cohen's dz
Visionary leadership knowledge (0–20)	10.37	15.91	5.54 (4.64–6.44)	12.54	< .001	2.12
Leadership competency (17–68)	41.91	59.80	17.89 (15.82–19.95)	17.70	< .001	2.99
Staff evaluation of visionary leadership (14–70)	41.93	53.09	11.16 (10.76–11.56)	53.72	< .001	3.36
Staff loyalty (13–65)	34.71	46.93	12.22 (11.69–12.75)	56.40	< .001	3.53

Note: All comparisons are paired t-tests. Higher scores indicate more favorable outcomes. Effect sizes were calculated from paired t-statistics.

Post-program staff evaluation of visionary leadership was positively correlated with staff loyalty ($r = .677$, $p < .001$), leadership competency ($r = .641$, $p < .001$), and nurse managers' knowledge ($r = .356$, $p < .001$). Staff loyalty was also positively correlated with leadership competency ($r = .589$, $p < .001$) and nurse managers' knowledge ($r = .255$, p

< .001). Leadership competency and knowledge were positively correlated ($r = .474$, $p < .001$).

The multiple regression model predicting staff evaluation of visionary leadership was statistically significant, adjusted $R^2 = .541$, $F(4, 250) = 75.691$, $p < .001$. Leadership competency ($\beta = .336$, $p < .001$) and staff loyalty ($\beta = .452$, $p < .001$) were significant predictors. Age and years of experience were not statistically significant predictors in the multivariable model.

DISCUSSION

This study found substantial pre-post improvements in nurse managers' knowledge and observed leadership competency after participation in the VLEP. Staff nurses also reported more positive evaluations of visionary leadership and higher loyalty scores. Although the study does not establish causal effectiveness because it lacked a comparison group, the direction and magnitude of change suggest that structured, practice-oriented leadership education may be beneficial for nurse managers in a maternity-service context.

The VLEP combined knowledge-focused content with active learning through simulation, case discussion, coaching practice, and structured reflection. This combination may help explain the pronounced improvement in leadership competency. Competencies such as communicating a vision, coaching, addressing conflict, and initiating change require practice and feedback rather than didactic teaching alone. Similar educational approaches have reported improvement in frontline leadership empowerment and nurse-manager decision-making competencies (Abel et al., 2020; Kusakli & Sönmez, 2024; Titzer et al., 2014).

The staff-level findings are also meaningful. Leadership behaviors are enacted in everyday interactions, and staff nurses are well positioned to observe whether a manager communicates purpose, listens, provides feedback, and involves the team in change. The positive association between staff evaluation of leadership and loyalty is consistent with prior evidence linking supportive leadership with job satisfaction, organizational commitment, and intention to stay (AbuAlRub & Alghamdi, 2012; Al-Yami et al., 2018; Boamah et al., 2018; Labrague et al., 2020).

The study extends leadership development work by using both manager-reported and staff-reported outcomes. This is important because self-assessed leadership knowledge alone cannot demonstrate whether leadership behavior becomes visible at unit level. The findings are broadly aligned with systematic-review evidence that nursing leadership contributes to work-environment outcomes and that leadership development can be strengthened through targeted educational interventions (Alilyyani et al., 2018; Cummings et al., 2018, 2021; Sfantou et al., 2021; Specchia et al., 2021).

The study should be interpreted in its local context. Nursing leadership development is closely connected to Saudi workforce transformation, including building stable and capable clinical teams. Prior Saudi research has identified associations between nurse-

manager leadership and staff engagement or commitment; the present study adds a programmatic example within a maternity setting (Alluhaybi et al., 2024; Alsufyani et al., 2020).

Implications and Limitations

For nursing practice and policy, the findings support the inclusion of leadership competencies in nurse-manager orientation, continuing professional development, and annual appraisal systems. Educational departments may adapt the VLEP for newly appointed head nurses, using action plans, follow-up coaching, and periodic staff feedback to reinforce transfer into daily practice. Nursing directors may also consider linking leadership-development indicators to workforce outcomes such as engagement, absenteeism, retention intention, and unit climate.

Several limitations should be acknowledged. First, the one-group pretest-posttest design cannot rule out temporal, testing, or organizational influences. Second, the study occurred in one maternity department, limiting transferability. Third, the staff nurses were clustered under participating nurse managers, but the current analyses did not model this hierarchy. Fourth, the intervention was assessed only two weeks after completion; sustained behavioral change and retention outcomes remain unknown. Finally, the leadership competency and loyalty instruments were adapted/developed for this study. Although pilot internal consistency was acceptable, further psychometric assessment, including construct validity and test-retest reliability, is needed. Future studies should use controlled or stepped-wedge designs, preregistered analytic plans, longer follow-up, and multilevel approaches that account for staff-to-manager clustering.

CONCLUSION

Participation in the VLEP was associated with improved nurse-manager knowledge and leadership competency, as well as more favorable staff evaluations of visionary leadership and staff loyalty. The findings support competency-based leadership education as a feasible nursing-administration strategy. Because the study used a one-group design, the results should be interpreted as evidence of promising change rather than definitive causal effect. Future multicenter controlled studies should evaluate sustainability, patient-safety indicators, and workforce retention outcomes.

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Author contributions

Samia M. Almutairi: Conceptualization, methodology, intervention delivery, data collection, formal analysis, and original drafting. Prof. Dr. Nehad E. Fekry: Supervision, methodological review, and critical revision of the manuscript. Prof. Dr. Fatma A. Abed: Supervision, methodological review, and critical revision of the manuscript. All authors reviewed and approved the final manuscript and accept responsibility for the integrity of the work.

Conflict of Interest

The authors declare no conflict of interest.

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Data Availability

The de-identified data are not publicly available because of the conditions of ethical approval. Requests for access may be considered by the corresponding author, subject to institutional approval.

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