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A Mixed-Methods Study on Leadership Development among Emerging Nurse Leaders in a Selected Healthcare Setting in Mumbai

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Abstract: ***This convergent mixed-methods study assessed leadership competencies and explored the lived experiences of 133 nursing personnel in a Mumbai healthcare setting using total enumeration sampling. Quantitative data, collected via an adapted Leadership Competency Checklist, revealed that 77.44% scored in the excellent-to-outstanding range, with 63.91% reporting prior leadership experience. A significant association was found between residence and competency scores ($\chi^2 = 6.63$, $p < 0.05$), favouring urban participants. Thematic analysis identified five core themes: Leadership in Action, Perspectives on Leadership, Barriers, Environment and Opportunity, and Admired Traits. Recommendations include integrating leadership training into nursing curriculum, strengthening simulation and mentorship, promoting inclusive opportunities, and implementing structured feedback. The study concludes that nurses possess strong leadership potential that can be enhanced through supportive training and environments.***

Keywords: Leadership Competencies, Nursing Personnel, Mixed-Methods Study, Healthcare Setting, Mentorship, Curriculum Integration

1. Introduction

The growing complexity of healthcare demands that nurses possess strong leadership competencies alongside clinical skills. Effective nursing leadership is essential for improving patient outcomes, enhancing teamwork, and navigating evolving care environments. Recent studies emphasize integrating leadership training in undergraduate nursing through simulation, mentorship, reflective practice, and experiential learning.

Giltinane et al. (2021) highlighted that early leadership exposure and structured modules enhance confidence and competency. Asiri et al. (2022) demonstrated that experiential learning and formal programs improve decision-making and leadership self-efficacy. Dyess et al. (2020) stressed the importance of mentorship and reflective debriefing. In diverse contexts, Oducado and Estoque (2021) found academic roles and mentorship to be impactful.

Despite these advancements, gaps remain in understanding how contextual factors, including demographic characteristics, cultural settings, and institutional support, affect leadership development among nursing personnel. Particularly in regions like Mumbai, where healthcare settings are diverse and resource-constrained in some part of the state, there remains a lack of research on leadership development among emerging nursing leaders (nursing students, faculty, and staff), calling for further exploration.

Purpose of the study

This study explores how healthcare personnel's in Mumbai develop, demonstrate, and plan to apply leadership competencies, while assessing their perspectives and challenges.

Need for the study

Leadership development is vital for improving patient care and teamwork, yet limited evidence exists on how nursing personnel in India cultivate and apply these competencies in clinical settings. The lived experiences, challenges, and aspirations of nurses remain insufficiently studied, creating a gap in tailored professional development. This study uses a mixed-methods approach to bridge this gap and provide evidence-based insights for enhancing leadership development in nursing practice.

2. Review of Literature

A qualitative study by Graham et al. (2020), explored the leadership development among UG nursing students, using interviews and observational data. It was found that early exposure to leadership roles during clinical placements is supported by simulation-based learning and mentorship, which enhanced students' confidence and preparedness for professional responsibilities.

A cross-sectional quantitative approach to measure leadership self-efficacy among nursing students (n = 150) through validated questionnaires used by Chou et al. (2019) reveal that experiential learning, such as leading small clinical teams, positively impacted students' leadership confidence.

Dyess et al. (2020) performed an integrative literature review of 25 peer-reviewed studies on early leadership development in nursing education. The review concluded that faculty mentorship, reflective debriefings, and supportive environments are critical for building leadership readiness in students.

3. Research Objectives

Quantitative Objectives:

1) To assess the levels of leadership competencies among nursing personnel.

2) To examine the relationship between demographic variables and leadership competencies.

Qualitative Objective:
To explore nursing personnel's perceptions, understanding, and experiences related to the development and application of leadership competencies in clinical practice.

Hypotheses

- **Null Hypothesis (H_0):** There is no statistically significant association between demographic variables and leadership competencies among nursing personnel at the 0.05 level of significance.
- **Alternative Hypothesis (H_1):** There is a statistically significant association between demographic variables and leadership competencies among nursing personnel at the 0.05 level of significance.

4. Research Methodology

A mixed-methods design combining quantitative and qualitative approaches was used for this study. The quantitative component employed a non-experimental, exploratory descriptive design with a convenience sample of 130 nursing personnel, using an online survey with the Adapted Nursing Leadership Competency Checklist validated by four experts and tested for reliability (0.93) through a pilot with 15 students. Data were analysed using descriptive statistics (frequencies, means, percentages, SD) and inferential analysis via chi-square tests. The qualitative component followed a descriptive exploratory design with a phenomenological approach, involving in-depth, semi-structured interviews with 18 participants selected through convenience sampling, validated by four experts, and analysed through thematic analysis to identify recurring themes related to leadership development experiences among nursing personnel.

Interpretation of Findings (Results)

Table 1: Frequency and percentage distribution of subjects, accordingly (N = 133)

Variable	Categories	Frequency	Percentage (%)
1. Age	17–20	97.00	72.93%
	21–25	32.00	24.06%
	26–30	04.00	3.01%
2. Course	1st Year GNM	33.00	24.81%
	2nd Year GNM	20.00	15.04%
	3rd Year GNM	18.00	13.53%
	2nd Semester B.Sc. (N)	35.00	26.32%
	4th Semester B.Sc. (N)	15.00	11.28%
	5th Semester B.Sc. (N)	21.00	15.79%
	6th Semester B.Sc. (N)	10.00	7.52%
	1st P.B.B.Sc (N)	06.00	4.51%
	2nd P.B.B.Sc (N)	01.00	0.75%
3. Family Type	Nuclear	111.00	83.46%
	Joint	16.00	12.03%
	Extended	6.00	4.51%
4. Place of Residence	Urban	102.00	76.69%
	Rural	31.00	23.31%
5. Leadership Experience	Yes	85.00	63.91%
	No	48.00	36.09%

Interpretation: The data reveals a predominantly young sample (72.93% aged 17–20), with most from nuclear families (83.46%) and urban areas (76.69%). A majority (63.91%) reported prior leadership experience, indicating early engagement in roles requiring initiative and decision-making. These trends suggest a strong base for structured leadership development among nursing personnel.

Objective 1: To assess the levels of leadership competencies among nursing personnel

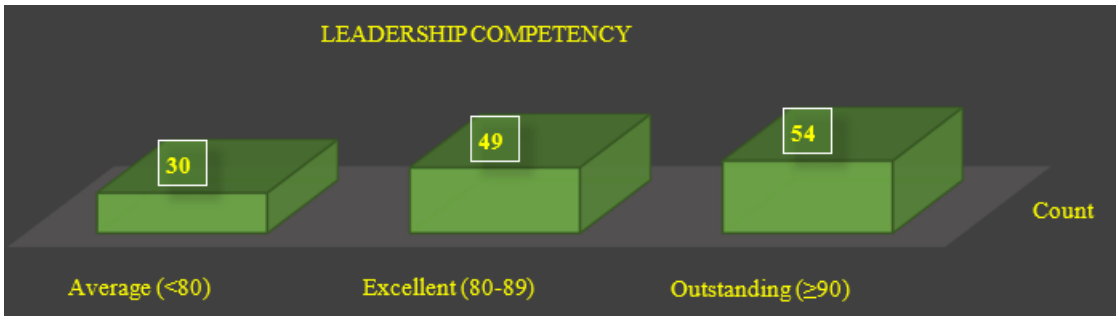

Figure 1: Leadership Competency Level Distribution

Interpretation: The leadership competency assessment of 133 nursing personnel shows strong overall performance, with over 77% scoring above average. Specifically, 40.60% demonstrated outstanding competency (≥90), reflecting advanced skills in confidence, decision-making, and teamwork. Another 36.84% scored in the excellent range (80–89), indicating solid leadership readiness. However, 22.56% fell into the average category (<80), highlighting the need for targeted support and development to strengthen their leadership potential.

Objective 2: To examine the relationship between demographic variables and leadership competencies.

Table 2: Association between Demographic Variables and Leadership Competency (N = 133)

Demographic Variable	Chi-Square Calculated Value	Chi-Square Table Value (df=2, p=0.05)	Significance
Age	4.52	9.48	NS
Course	11.29	23.68	NS
Types of Family	3.75	5.99	NS
Place	6.63	5.99	*S
Leadership Experience	3.66	5.99	NS

*S – Significant, NS – Not significant

Interpretation: The results reveal a statistically significant association between place of residence (urban/rural) and leadership competency, suggesting that urban respondents are more likely to demonstrate higher leadership competency. This could be due to better access to resources, exposure, and educational opportunities in urban settings. However, no significant associations were found between leadership competency and other demographic variables such as age, course, family type, or prior leadership experience, indicating that these factors do not substantially influence leadership outcomes in this sample.

5. Discussion

Merged Discussion with Identified Themes:
This convergent mixed-methods study explored leadership development among nursing personnel by integrating leadership competency scores with insights from their lived experiences. The findings reveal strong alignment between quantitative trends and qualitative themes.

Theme 1: Leadership in Action
Quantitatively, 63.91% of participants reported prior leadership experience. This was reflected qualitatively, as participants shared real-life examples of leading academic groups, coordinating clinical tasks, and managing emergencies. These scenarios demonstrated how nursing personnel are actively engaging in leadership behaviours through situational responsibility, even without formal titles.

Theme 2: Perspectives on Leadership
Over 77% of respondents achieved excellent to outstanding competency levels, with 40.60% scoring in the outstanding range (≥90). Qualitatively, participants described leadership as a combination of guiding others (mentoring), upholding standards, and motivating peers is associated with the study by Graham et al. (2020). These perspectives aligned with high scores in the adapted leadership competency checklist, confirming that those with stronger leadership beliefs tend to perform better.

Theme 3: Barriers to Leadership
Despite positive competency scores, 22.56% remained in the average range (<80). Qualitative data revealed barriers such as time constraints, lack of confidence, communication issues, and clinical stress. These factors hindered consistent leadership behavior, suggesting the need for mentorship, time management support, and safe environments to nurture emerging leaders.

Theme 4: Environment and Opportunity
A significant quantitative finding was the association between place of residence and leadership competency (χ^2 = 6.63, $p < 0.05$). Urban respondents showed stronger competencies, possibly due to better access to learning resources and clinical exposure which supports Dyess et al. (2020). While other demographic variables showed no significant association, the qualitative data highlighted that leadership development occurs across all ages and academic levels when given supportive environments.

Theme 5: Admired Leadership Traits
Participants consistently identified key leadership traits—integrity, calmness, decision-making, and compassion—which closely mirrored the competencies assessed. This overlap reinforces the importance of cultivating both measurable skills and internal values in leadership training.

6. Future Scope

- **Nursing Education:** Integrate leadership in curriculum; use simulation, reflection, and mentorship.
- **Nursing Practice:** Promote shared governance and leadership roles in clinical settings.
- **Nursing Research:** Study long-term impacts of leadership training across settings.
- **Nursing Administration:** Implement policies for leadership support, training, and career progression.

7. Recommendation

1) **Integrate leadership training across the nursing curriculum** to build foundational competencies early.
2) **Provide experiential and simulation-based learning** to enhance confidence and practical decision-making.
3) **Establish strong mentorship and role modelling systems** to model effective leadership behaviours consistently.
4) **Ensure inclusive, equitable access to leadership opportunities** that nurture diverse leadership styles.
5) **Implement structured feedback and recognition mechanisms** to reinforce positive leadership behaviours and encourage continuous growth.

8. Conclusion

This mixed-methods study reveals that nursing personnel in a Mumbai healthcare setting generally possess strong leadership competencies and perceive leadership as an integral aspect of their professional identity. The quantitative findings demonstrated a commendable distribution of leadership competency levels, with a significant proportion of participants falling within excellent and outstanding categories. The qualitative exploration further enriched this understanding by highlighting how nurses actively engage in leadership through academic coordination, clinical

facilitation, and upholding professional standards, despite the constraints posed by time pressures, communication barriers, and workplace stressors.

These findings affirm that nursing personnel possess both the capacity and willingness to lead. Leadership development is not confined to a specific age or experience level; rather, it is shaped by continuous opportunities for engagement, reflection, and mentorship within the clinical and academic environments one inhabit. Structured leadership programs, inclusive environments, and removal of barriers are essential to fully harness and elevate their leadership potential across all stages of professional development.

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