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Original Article

Nurses' Perspectives on Managerial Leadership Practices and Their Determinants

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ABSTRACT

Background: Managerial leadership is essential for maintaining safe patient care, supporting nursing staff, improving workplace engagement, and strengthening healthcare quality. Nurses' perceptions of leadership are influenced by managerial behaviors and workplace conditions, yet evidence from hospital settings in Lahore remains limited. **Objective:** To assess nurses' perceptions of managerial leadership practices and identify factors associated with these perceptions among registered nurses working in selected public and private hospitals of Lahore, Pakistan. **Methods:** A quantitative cross-sectional study was conducted among registered nurses with at least six months of clinical experience. A total of 422 nurses were approached, and 401 completed a standardized self-administered questionnaire. Data were analyzed using SPSS version 26. Descriptive statistics summarized demographic characteristics, perception levels, and leadership-related factors, while multivariable linear regression identified determinants of nurses' perception scores. **Results:** The response rate was 95.0%. Most participants were female (58.9%), aged 20–29 years (55.1%), BSN/Post RN qualified (61.8%), and employed in public hospitals (61.3%). The mean perception score was 58.42 ± 11.63. Overall, 29.4% of nurses had low perception, 42.6% moderate perception, and 27.9% high perception. Leadership training ($\beta = 4.92$, $p < 0.001$), organizational support ($\beta = 0.51$, $p < 0.001$), and innovative work behavior ($\beta = 0.97$, $p < 0.001$) were positively associated with perception scores, whereas job-related stress ($\beta = -0.18$, $p = 0.002$) and heavy workload ($\beta = -0.23$, $p = 0.001$) were negatively associated. **Conclusion:** Nurses demonstrated moderate perceptions of managerial leadership practices. Strengthening leadership training, organizational support, innovation, workload management, and stress reduction may improve nursing leadership effectiveness and workplace outcomes. **Keywords:** Nursing leadership, managerial leadership practices, nurses' perception, organizational support, workload, job-related stress, Pakistan.

INTRODUCTION

Leadership in nursing management is central to the delivery of safe, coordinated, and high-quality patient care, particularly in hospital environments where nurses work under continuous clinical, administrative, and emotional demands. Nurse managers are expected to guide clinical teams, coordinate workflow, support evidence-based practice, maintain professional standards, and create workplace conditions that strengthen staff motivation, retention, and patient safety. Effective managerial leadership in nursing is therefore not limited to supervision; it includes communication, shared decision-making, emotional support, conflict resolution, professional development, and the ability to influence nurses toward organizational and patient-care goals (1). In contemporary healthcare systems, these

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leadership responsibilities have become more complex because of workforce shortages, rising patient acuity, technological change, administrative burden, and increasing expectations for quality improvement (2).

Managerial leadership practices directly shape nurses' experiences of the workplace because nurses interact with their managers in relation to scheduling, workload distribution, clinical support, performance feedback, problem-solving, and professional growth. Supportive leadership has been associated with stronger job satisfaction, improved work engagement, greater organizational commitment, better staff retention, and improved patient-care outcomes (3). Previous reviews have also shown that nursing leadership is influenced by multiple organizational and contextual factors, including leadership preparation, staffing levels, workload, institutional resources, workplace culture, and management support (4). When leadership is participatory, respectful, and responsive, nurses are more likely to perceive their work environment positively and contribute actively to quality care. Conversely, poor leadership practices may contribute to stress, burnout, dissatisfaction, reduced morale, and turnover intention among nursing staff (5).

The population of interest in the present study is registered nurses working in selected public and private hospitals of Lahore, Pakistan. This population is important because nurses in tertiary and general hospital settings are exposed to high service demands and depend heavily on nurse managers for clinical coordination, support, and workplace problem-solving. The exposure or determinants of interest include leadership training, organizational support, innovative work behavior, workload, staffing shortages, job-related stress, communication, availability of resources, workplace conflict, and supportive policies. These factors may either strengthen or weaken nurses' perceptions of managerial leadership practices. Nurses who experience supportive management, leadership development opportunities, adequate staffing, and positive workplace culture may perceive leadership more favorably, whereas nurses exposed to heavy workload, occupational stress, limited resources, or poor communication may report less favorable perceptions (6,7).

Existing literature suggests that leadership training and organizational support are particularly important determinants of effective nursing leadership. Leadership development programs can improve managerial competence, strengthen communication, enhance decision-making, and improve the relationship between nurse managers and clinical staff (8). Similarly, nurse managers who support evidence-based practice and professional development can improve nurses' confidence, engagement, and willingness to participate in quality improvement activities (9). Innovative work behavior is also increasingly recognized as a relevant leadership-related factor because nurses who are encouraged to think creatively, solve problems, and participate in improvement initiatives may develop more positive perceptions of their managers and workplace environment (10). These findings indicate that managerial leadership should be studied not only as a leadership style but also as an outcome shaped by organizational systems, work conditions, and staff-level experiences.

Despite the growing international evidence on nursing leadership, limited context-specific evidence is available regarding nurses' perceptions of managerial leadership practices in Lahore, Pakistan. Public and private hospitals in this setting may differ in staffing patterns, resources, administrative structures, workload intensity, and opportunities for leadership development. These contextual differences make it necessary to examine how nurses perceive their managers' leadership practices and which determinants are most strongly associated with those perceptions. Without local evidence, hospital administrators and nursing policymakers may be unable to design targeted leadership training, improve workplace support systems, reduce occupational stress, or address organizational barriers affecting nursing leadership.

Therefore, this study was designed to assess nurses' perceptions of managerial leadership practices among registered nurses working in selected public and private hospitals of Lahore and to identify the factors influencing these perceptions. The study specifically examined whether leadership training, organizational support, innovative work behavior, job-related stress, and workload were associated with

nurses' perceptions of managerial leadership practices. The research question guiding this study was: among registered nurses working in selected public and private hospitals of Lahore, how do nurses perceive managerial leadership practices, and which individual, organizational, and workplace-related factors determine these perceptions?

MATERIALS AND METHODS

A quantitative cross-sectional observational study was conducted to assess nurses' perceptions of managerial leadership practices and to identify the determinants influencing these perceptions among registered nurses working in selected public and private hospitals of Lahore, Pakistan. The cross-sectional design was appropriate because it enabled the measurement of nurses' leadership perceptions and related workplace, organizational, and individual factors at a single point in time. The study was carried out in tertiary care teaching hospitals and general healthcare facilities providing medical, surgical, emergency, critical care, and outpatient services. The source population comprised all registered nurses working in the selected hospitals, while the study population consisted of eligible nurses who were available during the data collection period and met the predefined selection criteria.

Registered nurses with at least six months of clinical work experience were included because this duration was considered sufficient for participants to have meaningful exposure to nurse managers' leadership behaviors and workplace management practices. Nurses working in direct patient-care areas, including medical, surgical, emergency, critical care, and outpatient departments, were eligible for participation. Nursing students, intern nurses, nurses on leave during the data collection period, and administrative nursing staff not directly involved in patient care were excluded to ensure that the responses represented clinical nurses with direct experience of managerial leadership in routine hospital practice.

The required sample size was calculated using the single population proportion formula, assuming a 95% confidence level, 5% margin of error, and 50% expected population proportion because of limited local evidence on nurses' perceptions of managerial leadership practices in the study setting. After adding a 10% allowance for non-response, the final target sample size was 422 registered nurses. Participants were recruited using a non-probability convenience sampling technique from the selected hospitals. Nurses who met the eligibility criteria were approached during duty hours without disrupting clinical services, informed about the purpose and voluntary nature of the study, and invited to participate. Written informed consent was obtained before data collection.

Data were collected using a standardized self-administered questionnaire developed from established leadership and workplace assessment measures. The questionnaire consisted of sections covering sociodemographic characteristics, nurses' perceptions of managerial leadership practices, and factors affecting leadership practices. Sociodemographic variables included gender, age, marital status, professional qualification, years of clinical experience, and hospital type. Managerial leadership practices were assessed using items related to communication, teamwork, staff involvement in decision-making, respectful behavior, motivation, support during difficult situations, conflict management, evidence-based practice, recognition of staff efforts, professional growth, approachability, maintenance of a positive work environment, and contribution to patient-care quality. Determinants of leadership perception included workload, staffing shortages, resource availability, organizational support, leadership training, job-related stress, workplace conflict, communication, workplace culture, authority, motivation, innovative work behavior, administrative burden, supportive policies, and professional development.

Responses were measured on a five-point Likert scale, with higher scores indicating more favorable perceptions of managerial leadership practices or stronger agreement with the presence of influencing factors. The overall leadership perception score was calculated by summing relevant item scores, and respondents were categorized into low, moderate, and high perception groups using tertile-based

classification. Workload and job-related stress were operationalized as negative workplace-related determinants, while leadership training, organizational support, and innovative work behavior were operationalized as positive determinants expected to improve nurses' perceptions of managerial leadership practices.

To improve data quality and reduce measurement error, the questionnaire was pretested on 10% of the calculated sample size in hospitals outside the final study setting. Feedback from the pretest was used to improve clarity, wording, sequencing, and consistency of questionnaire items.

Data collectors were oriented regarding the study purpose, eligibility criteria, informed consent process, confidentiality procedures, and standardized questionnaire administration. Completed questionnaires were reviewed for completeness and internal consistency before data entry. The reliability of the leadership perception instrument and related scales was assessed using Cronbach's alpha coefficient, with a value of 0.70 or above considered acceptable for internal consistency.

Several steps were taken to minimize bias and confounding. Eligibility criteria were defined before recruitment to ensure that participants had adequate clinical exposure to managerial leadership practices. A standardized self-administered questionnaire was used for all participants to reduce interviewer-related variation.

Confidential and anonymous data collection was maintained to reduce social desirability bias and encourage honest responses. Potential confounding variables, including age, gender, marital status, professional qualification, years of experience, and hospital type, were collected and considered during analysis. Variables with theoretical and statistical relevance to leadership perception were evaluated in inferential analysis, and multivariable linear regression was used to estimate independent associations between selected determinants and nurses' perception scores.

Data were coded, entered, cleaned, and analyzed using Statistical Package for the Social Sciences version 26. Descriptive statistics were used to summarize participant characteristics and study variables. Frequencies and percentages were calculated for categorical variables, while means and standard deviations were calculated for continuous variables.

Nurses' perception levels were summarized as low, moderate, and high according to tertile classification. Item-wise responses for managerial leadership practices and influencing factors were summarized using frequencies and percentages for agreement categories. Inferential statistical analysis included chi-square tests for associations between categorical variables, independent-samples t-tests for comparison of mean perception scores across two groups, correlation analysis for relationships between continuous variables, and multiple linear regression to identify factors independently associated with nurses' perceptions of managerial leadership practices. Statistical significance was set at a p-value of less than 0.05.

The final multivariable regression model included leadership training, organizational support, innovative work behavior, job-related stress, and heavy workload as key predictors of nurses' perception scores. Regression coefficients, 95% confidence intervals, and p-values were used to interpret the direction, magnitude, and statistical significance of associations.

Positive coefficients indicated factors associated with higher perception scores, while negative coefficients indicated factors associated with lower perception scores. Data integrity was maintained through careful coding, repeated checking of entered data, review of incomplete responses, and secure storage of completed questionnaires and electronic datasets.

Ethical principles were followed throughout the study. Participation was voluntary, and all participants provided written informed consent before completing the questionnaire. Participants were informed that they could withdraw at any stage without penalty. No personally identifiable information was collected in the final dataset. Confidentiality, anonymity, and privacy were maintained during data collection, data

entry, analysis, and reporting. The study procedures were conducted in accordance with institutional ethical standards for research involving human participants.

RESULTS

A total of 422 registered nurses were approached, of whom 401 completed the questionnaire, giving a response rate of 95.0%. The final analysis included all 401 respondents. The sociodemographic profile showed that the sample was predominantly female, younger than 30 years, married, BSN/Post RN qualified, and employed in public hospitals. The detailed distribution is presented in Table 1.

Among the respondents, 236 nurses (58.9%) were female and 165 (41.1%) were male. More than half of the participants were aged 20–29 years (n = 221, 55.1%), followed by 30–39 years (n = 118, 29.4%). Most respondents were married (n = 244, 60.8%). In terms of professional qualification, 248 nurses (61.8%) had BSN/Post RN qualifications, while 103 (25.7%) were diploma nurses. Nearly half of the participants had 1–5 years of clinical experience (n = 179, 44.6%), and most were working in public hospitals (n = 246, 61.3%).

The findings indicate that 171 nurses (42.6%) had a moderate perception of managerial leadership practices, while 118 nurses (29.4%) had a low perception and 112 nurses (27.9%) had a high perception. The moderate group represented the largest category, suggesting that nurses generally perceived managerial leadership practices as acceptable but not consistently strong across all leadership domains. Item-wise responses showed that nurses most frequently agreed that their managers treated staff respectfully, improved patient-care quality, maintained an approachable leadership style, and communicated effectively. Lower agreement was observed for staff involvement in decision-making and conflict management. Detailed item-wise responses are presented in Table 3. The highest agreement was observed for respectful treatment by managers, reported by approximately 282 nurses (70.4%). A similarly high proportion agreed that nurse managers improved patient-care quality (n ≈ 273, 68.0%) and had an approachable leadership style (n ≈ 265, 66.1%). Communication was also rated favorably, with 261 nurses (65.2%) agreeing or strongly agreeing that their nurse manager communicated effectively.

In contrast, only 199 nurses (49.6%) agreed that staff were involved in decision-making, making it the lowest-rated leadership practice. Conflict management was also relatively weaker, with agreement from 217 nurses (54.1%). Nurses identified several workplace and organizational factors that influenced managerial leadership practices. Leadership training, professional development, supportive policies, heavy workload, organizational support, and innovative work behavior were among the most frequently endorsed factors. These results are shown in Table 4.

Table 1. Sociodemographic Characteristics of Respondents (N = 401)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	165	41.1
	Female	236	58.9
Age	20–29 years	221	55.1
	30–39 years	118	29.4
	40–49 years	47	11.7
	≥50 years	15	3.7
Marital status	Single	132	32.9
	Married	244	60.8
	Divorced/Widowed	25	6.3
Qualification	Diploma Nursing	103	25.7
	BSN/Post RN	248	61.8
	MSN	41	10.2
	Others	9	2.2
Experience	1–5 years	179	44.6
	6–10 years	121	30.2
	>10 years	101	25.2
Hospital type	Public	246	61.3
	Private	155	38.7

Table 2. Level of Nurses' Perception Regarding Managerial Leadership Practices (N = 401)

Level of Perception	Frequency (n)	Percentage (%)
Low perception	118	29.4
Moderate perception	171	42.6
High perception	112	27.9
Overall perception score	Mean ± SD	58.42 ± 11.63
Observed score range	Minimum–Maximum	24–75

Table 3. Nurses' Agreement With Managerial Leadership Practice Items (N = 401)

Managerial Leadership Practice Item	Agree/Strongly Agree n*	Agree/Strongly Agree (%)
Treats staff respectfully	282	70.4
Improves patient care quality	273	68.0
Approachable leadership style	265	66.1
Effective communication by nurse manager	261	65.2
Maintains positive work environment	257	64.2
Recognizes staff efforts	256	63.9
Encourages teamwork	252	62.8
Motivates staff performance	247	61.7
Overall satisfaction with leadership	244	60.9
Demonstrates strong leadership	243	60.5
Provides support in difficult situations	238	59.3
Supports professional growth	231	57.6
Promotes evidence-based practice	228	56.8
Handles conflicts effectively	217	54.1
Involves staff in decision-making	199	49.6

Table 4. Factors Affecting Managerial Leadership Practices (N = 401)

Factor	Agree/Strongly Agree n*	Agree/Strongly Agree (%)
Leadership training improves effectiveness	302	75.4
Professional development improves leadership	297	74.1
Supportive policies strengthen leadership	295	73.5
Heavy workload affects leadership	293	73.1
Organizational support improves leadership	291	72.6
Innovative work behavior improves leadership	288	71.8
Positive culture improves leadership	284	70.9
Staff shortage affects leadership	283	70.5
Job-related stress affects leadership	277	69.2
Lack of resources affects leadership	270	67.3
Administrative burden affects managers	268	66.9
Workplace conflict reduces effectiveness	260	64.8
Lack of motivation affects outcomes	250	62.3
Poor communication affects leadership	247	61.5
Limited authority affects performance	235	58.7

The most frequently endorsed positive determinant was leadership training, with approximately 302 nurses (75.4%) agreeing that it improves leadership effectiveness. Professional development was also highly endorsed (n ≈ 297, 74.1%), followed by supportive policies (n ≈ 295, 73.5%) and organizational support (n ≈ 291, 72.6%). Among negative determinants, heavy workload was reported by approximately 293 nurses (73.1%), staff shortage by 283 nurses (70.5%), and job-related stress by 277 nurses (69.2%). These findings indicate that nurses perceived leadership effectiveness as strongly shaped by both enabling organizational conditions and pressures within the work environment. Multivariable linear regression was performed to identify factors independently associated with nurses' perceptions of managerial leadership practices. The final model included leadership training, organizational support, innovative work behavior, job-related stress, and heavy workload. The regression findings are presented in Table 5.

Table 5. Multivariable Linear Regression Analysis of Factors Associated With Nurses' Perception Scores

Predictor Variable	Beta Coefficient (β)	95% Confidence Interval	p-value
Leadership training	4.92	2.20 to 7.64	<0.001
Organizational support	0.51	0.33 to 0.69	<0.001
Innovative work behavior	0.97	0.80 to 1.15	<0.001
Job-related stress	-0.18	-0.29 to -0.07	0.002
Heavy workload	-0.23	-0.37 to -0.09	0.001

Leadership training showed the strongest positive association with nurses' perception scores (β = 4.92, 95% CI: 2.20 to 7.64, p < 0.001), indicating that nurses exposed to leadership training-related factors had higher perception scores. Organizational support was also positively associated with perception scores (β = 0.51, 95% CI: 0.33 to 0.69, p < 0.001), as was innovative work behavior (β = 0.97, 95% CI: 0.80 to 1.15, p < 0.001). Conversely, job-related stress had a significant negative association with perception scores (β = -0.18, 95% CI: -0.29 to -0.07, p = 0.002), and heavy workload was also negatively associated with perception scores (β = -0.23, 95% CI: -0.37 to -0.09, p = 0.001).

Overall, the results show that nurses' perceptions of managerial leadership practices were predominantly moderate. Positive perceptions were higher in relation to respectful behavior, patient-care quality, approachability, communication, teamwork, and recognition of staff efforts. However, comparatively lower agreement for decision-making involvement and conflict management indicates weaker areas within managerial leadership practice. Regression analysis further demonstrated that leadership training, organizational support, and innovative work behavior were significant positive determinants, whereas job-related stress and heavy workload were significant negative determinants of nurses' perception scores.

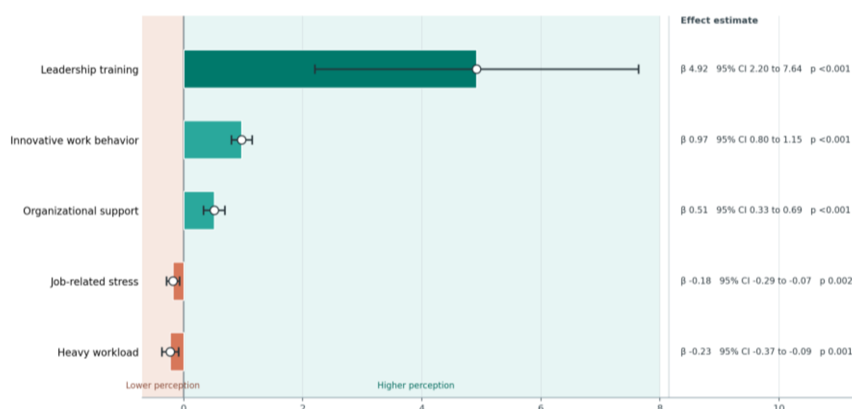

Figure 1. Determinants of Nurses' Managerial Leadership Perception Scores

The figure presents adjusted regression coefficients with 95% confidence intervals for determinants of nurses' managerial leadership perception scores. Leadership training showed the strongest positive association with perception scores, increasing scores by 4.92 points with a confidence interval from 2.20 to 7.64 and statistical significance at p < 0.001. Innovative work behavior also demonstrated a positive association (β = 0.97, 95% CI: 0.80 to 1.15, p < 0.001), followed by organizational support (β = 0.51, 95% CI: 0.33 to 0.69, p < 0.001). In contrast, heavy workload (β = -0.23, 95% CI: -0.37 to -0.09, p = 0.001) and job-related stress (β = -0.18, 95% CI: -0.29 to -0.07, p = 0.002) were negatively associated with perception scores, indicating that workplace pressure reduced favorable leadership perceptions. Overall, the visual pattern highlights leadership training as the most influential positive determinant, while workload and stress represent measurable negative barriers to favorable perceptions of managerial leadership.

DISCUSSION

The present study found that nurses' perceptions of managerial leadership practices were generally moderate, with 42.6% of respondents reporting moderate perception, 29.4% reporting low perception, and 27.9% reporting high perception. This pattern suggests that managerial leadership practices were visible and functional in the study hospitals, but not consistently strong enough to produce a predominantly high level of perceived leadership quality. The overall mean perception score of 58.42 ± 11.63 further indicates an intermediate level of perceived managerial effectiveness, reflecting partial satisfaction with nurse managers' communication, support, teamwork promotion, and professional behavior. These findings are consistent with evidence showing that nurses' perceptions of leadership are shaped by the quality of managerial behaviors, organizational context, and day-to-day workplace support

(11). In hospital environments where nurse managers must balance clinical supervision, administrative duties, staff coordination, and patient-care quality, moderate perception may indicate that leadership practices are present but constrained by workload, staffing, and organizational pressures (12).

The item-wise findings provide a clearer explanation of this moderate overall perception. Nurses most frequently agreed that their managers treated staff respectfully (70.4%), improved patient-care quality (68.0%), maintained an approachable leadership style (66.1%), communicated effectively (65.2%), and maintained a positive work environment (64.2%). These results suggest that interpersonal and relational aspects of leadership were comparatively stronger than participatory or problem-solving dimensions. Respectful treatment and approachability are important leadership behaviors because they encourage psychological safety, communication, and staff willingness to seek support during clinical challenges. Similar evidence has shown that supportive and accessible nurse managers can improve nurses' engagement with professional development and evidence-based practice (13). However, lower agreement for staff involvement in decision-making (49.6%) and effective conflict handling (54.1%) indicates that nurses may not be sufficiently included in shared governance or workplace problem-solving. This gap is important because participatory leadership and conflict management are central to staff empowerment, teamwork, and organizational trust.

Leadership training emerged as the strongest positive determinant of nurses' perception scores, with a regression coefficient of $\beta = 4.92$ and a statistically significant association (95% CI: 2.20 to 7.64, $p < 0.001$). This finding indicates that leadership training was associated with a meaningful improvement in how nurses perceived managerial leadership practices. Leadership training may improve nurse managers' communication skills, delegation, emotional intelligence, conflict resolution, decision-making, and ability to support staff under pressure. These competencies are essential in nursing units where managers are expected to maintain clinical quality while responding to staffing shortages, workload pressures, and administrative expectations. Previous literature also supports the role of leadership development in strengthening nurse managers' capacity to guide clinical teams and improve staff relationships (14). Therefore, the strong positive association observed in this study suggests that leadership training is not merely an administrative activity but a practical intervention that may improve nurses' experience of management and workplace support.

Organizational support was also positively associated with nurses' perception scores ($\beta = 0.51$, 95% CI: 0.33 to 0.69, $p < 0.001$). This finding highlights that leadership is not determined only by individual managerial behavior but also by the broader institutional environment in which nurse managers function. When hospitals provide adequate resources, supportive policies, professional development opportunities, and administrative backing, nurse managers are better positioned to respond to staff concerns and maintain effective leadership practices. In contrast, limited organizational support may restrict managers' authority, reduce their ability to solve unit-level problems, and weaken nurses' confidence in leadership. The high agreement that supportive policies strengthen leadership (73.5%) and that organizational support improves leadership (72.6%) reinforces this interpretation. These findings align with evidence that organizational systems, workplace culture, and leadership context strongly influence nursing leadership effectiveness and staff outcomes (15).

Innovative work behavior showed a significant positive association with leadership perception scores ($\beta = 0.97$, 95% CI: 0.80 to 1.15, $p < 0.001$). This suggests that nurses who perceived or experienced greater innovation in the workplace also viewed managerial leadership more favorably. Innovation in nursing practice may include encouraging new ideas, supporting clinical problem-solving, improving workflow, adopting evidence-based practices, and involving staff in quality improvement activities. Managers who promote innovation may be perceived as more competent, forward-thinking, and supportive of professional growth. The finding that 71.8% of nurses agreed that innovative work behavior improves leadership further supports the importance of creativity and improvement-oriented practice in nursing management. This is consistent with research indicating that innovative leadership behaviors can

enhance performance, motivation, and quality of service delivery in healthcare settings (16). In the context of busy hospital units, innovation may help nurses feel that leadership is responsive to real clinical challenges rather than limited to routine supervision.

In contrast, job-related stress was negatively associated with perception scores (β = -0.18, 95% CI: -0.29 to -0.07, p = 0.002), indicating that higher stress reduced favorable perceptions of managerial leadership. Stress may affect leadership perception in two ways. First, stressed nurses may experience reduced job satisfaction, emotional exhaustion, and lower tolerance for managerial shortcomings. Second, stressful environments may limit nurse managers' ability to provide individualized support, maintain communication, and address staff concerns effectively. The finding that 69.2% of nurses agreed that job-related stress affects leadership shows that stress was widely recognized as a barrier to effective management. Prior studies have similarly shown that workplace stress, burnout, lack of support, and conflict can weaken nurses' trust in leadership and reduce perceived managerial effectiveness (17). This finding is particularly important because stress is not only an individual psychological issue but also an organizational signal of workload imbalance, staffing inadequacy, and limited support systems.

Heavy workload also demonstrated a significant negative association with nurses' perception scores (β = -0.23, 95% CI: -0.37 to -0.09, p = 0.001). This finding is clinically meaningful because 73.1% of nurses agreed that heavy workload affects leadership, making it one of the most frequently reported barriers. Heavy workload may reduce the time nurse managers have for supervision, mentoring, feedback, staff engagement, and conflict resolution. It may also increase staff fatigue and dissatisfaction, which can influence how leadership behaviors are interpreted. In settings with high patient volume, inadequate staffing, and administrative burden, even skilled nurse managers may struggle to provide consistent support. Evidence from nursing leadership literature has similarly identified workload, staffing shortages, insufficient resources, and competing administrative responsibilities as major barriers to effective frontline nursing leadership (18). Therefore, the negative association between workload and perception scores suggests that improving leadership requires attention not only to manager training but also to staffing and workload conditions.

The findings also show that staffing shortage, lack of resources, administrative burden, workplace conflict, poor communication, limited authority, and lack of motivation were frequently perceived as factors affecting leadership effectiveness. More than two-thirds of nurses agreed that staff shortage affects leadership (70.5%), lack of resources affects leadership (67.3%), and administrative burden affects managers (66.9%). These results indicate that nurses understood leadership effectiveness as a product of both managerial competence and structural working conditions. Nurse managers working without sufficient staffing, resources, or decision-making authority may be unable to implement supportive practices consistently, even when they recognize staff needs. This interpretation is supported by evidence showing that leadership effectiveness is influenced by institutional constraints, authority structures, and the balance between clinical and administrative responsibilities (19). Thus, leadership improvement strategies should address organizational barriers alongside individual leadership skills.

The overall pattern of findings suggests that managerial leadership perception among nurses is shaped by a balance between enabling and constraining factors. Leadership training, organizational support, and innovative work behavior appear to strengthen perception, while stress and workload weaken it. This balance helps explain why the largest proportion of nurses reported moderate rather than high perception. Nurses recognized positive leadership behaviors such as respect, communication, approachability, and support, but these strengths were likely reduced by limited participation in decision-making, weaker conflict handling, heavy workload, and stress. Similar findings have been reported in studies showing that nurses' perceptions of leadership practices depend on the interaction between leadership behaviors, organizational support, workplace culture, and occupational demands (20). In this study, the strongest improvement signal came from leadership training, while the strongest workplace

barrier was heavy workload, indicating that both professional development and work-environment reform are needed to improve leadership perception.

These findings have important implications for nursing administration and hospital management. Leadership development programs should be strengthened for nurse managers, with emphasis on communication, participatory decision-making, conflict management, emotional support, staff recognition, and evidence-based practice facilitation. Because decision-making involvement was the lowest-rated leadership item, hospitals should promote shared governance structures and routine staff participation in unit-level decisions. Similarly, because conflict management was rated relatively low, nurse managers may benefit from structured training in mediation, feedback delivery, team communication, and workplace problem-solving. At the organizational level, reducing workload, improving staffing adequacy, providing resources, and limiting unnecessary administrative burden may allow nurse managers to practice leadership more effectively. Supportive policies and professional development opportunities may also improve nurses' perception of leadership by strengthening the link between managerial behavior and institutional support.

The study has several limitations that should be considered when interpreting the findings. The cross-sectional design measured leadership perceptions and determinants at one point in time, so causal relationships cannot be established. The use of convenience sampling may limit generalizability beyond the selected hospitals. Because data were collected through self-administered questionnaires, responses may have been influenced by recall bias, social desirability bias, or individual workplace experiences at the time of data collection. The study was quantitative, so it may not fully capture deeper explanations of why nurses perceived specific leadership behaviors positively or negatively. In addition, hospital-level differences, unit-level leadership structures, and manager-specific characteristics were not explored in detail. Despite these limitations, the study provides useful evidence on nurses' perceptions of managerial leadership practices and highlights modifiable organizational and workplace factors that can guide leadership improvement initiatives in hospital nursing settings.

Overall, the findings indicate that nurses perceived managerial leadership practices at a moderate level, with relatively stronger ratings for respectful behavior, communication, approachability, patient-care quality, and positive work environment, but weaker ratings for staff involvement in decision-making and conflict management. Leadership training, organizational support, and innovative work behavior were significant positive determinants of perception, whereas job-related stress and heavy workload were significant negative determinants. These results emphasize that effective nursing leadership depends on both competent nurse managers and supportive organizational conditions. Strengthening leadership training while reducing workload and stress may improve nurses' perceptions of managerial leadership and contribute to a more supportive, productive, and patient-centered nursing work environment

CONCLUSION

The study concluded that nurses working in selected public and private hospitals of Lahore had an overall moderate perception of managerial leadership practices, indicating that leadership behaviors were present but required further strengthening to achieve consistently high levels of staff confidence and satisfaction. Nurses reported comparatively stronger perceptions regarding respectful treatment, approachability, communication, teamwork, recognition of staff efforts, maintenance of a positive work environment, and contribution to patient-care quality, while relatively weaker perceptions were observed for staff involvement in decision-making and conflict management. Leadership training, organizational support, and innovative work behavior were significant positive determinants of nurses' perceptions, whereas job-related stress and heavy workload had significant negative effects. These findings highlight that effective managerial leadership in nursing depends not only on the personal competencies of nurse managers but also on the organizational conditions that support or restrict their leadership role. Strengthening structured leadership development programs, promoting shared decision-making,

improving conflict-management capacity, enhancing organizational support, encouraging innovation, reducing workload pressure, and addressing job-related stress may improve nurses' perceptions of managerial leadership and contribute to a healthier, more supportive, and patient-centered hospital work environment.

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