ISSN: 2976- 1077 (Online)
Vol.5.Issue 3
Multi-disciplinary double-blind peer review journal

Examining Nursing Leadership and Its Role in Driving Quality Improvement among Nursing Students in Kathmandu Valley

Authors: Nirmala Kumari Balayer [1], Dr. Ratna Chhaya Singh[2], Dr. Ramanand Pandit[3]

Affiliation: [1]Research Scholar, Faculty of Nursing Science, Mansarovar Global University, Sehore (Madhya Pradesh), India.
[2] Supervisor, Faculty of Nursing Science, Mansarovar Global University, Sehore (Madhya Pradesh), India.
[3]Assistant Professor, Faculty of Nursing Science, Mansarovar Global University, Sehore (Madhya Pradesh), India.

Publishing Process
Received on: Feb 27, 2026
Finalized to publish: March 20, 2026
Open Access 4.0
Published date: April 10, 2026

Abstract: Quality improvement (QI) strengthens healthcare delivery, with nurses playing a central role in addressing practice gaps. In Nepal, workforce shortages and inconsistent nursing education limit students' readiness for QI, making leadership support essential. This study examined the influence of nursing leadership on nursing students' awareness, participation, and perceptions of QI initiatives in Kathmandu Valley. A descriptive cross-sectional study was conducted, with data collected from 422 students through stratified random sampling and analyzed using descriptive statistics in SPSS. Findings indicated that nursing students in Kathmandu Valley were highly engaged in QI initiatives, participating in projects (mean = 4.42, SD = 0.83), planning (mean = 4.01, SD = 0.83), and implementation (mean = 3.91, SD = 0.76). Leadership awareness and skills were moderate to high, despite limited formal training (mean = 2.99, SD = 1.29). Key challenges included workload (61.6%) and limited supervision (54.3%), while practical examples (64.7%) and instructor support (62.8%) facilitated sustained QI engagement. Incorporating structured leadership development and experiential QI training is essential to enhance nursing students' competence in leading and sustaining quality improvement initiatives.

Keywords: Awareness; Engagement; Healthcare; Leadership; QI Initiative; Nursing.

Declaration: There is no conflict of Interest, and the research was conducted by adhering to all research ethics.

Corresponding Email**:** balayarn2000@gmail.com

ISSN: 2976- 1077 (Online)

Vol.5.Issue 3

Multi-disciplinary double-blind peer review journal

Introduction

Quality improvement (QI) is a structured, evidence-driven process aimed at refining healthcare delivery through systematic assessment and iterative change (Hickey & Giardino, 2019). Nurses, as primary care providers, are positioned to identify gaps in practice and initiate improvements; however, meaningful engagement requires strong QI competencies and effective leadership support (Blok et al., 2022; Lyle-Edrosolo & Waxman, 2016). Leadership grounded in emotional intelligence, communication, and relationship-focused practices has been shown to enhance nurse well-being, job satisfaction, and patient outcomes (Cummings et al., 2018; Shrestha & Mandal, 2021). In Nepal, chronic workforce shortages, high nurse-to-patient ratios, migration of trained personnel, and disparities in nursing education quality intensify the need for capable leadership to prepare nursing students for QI responsibilities (Budhathoki, 2024; Ghimire & Neupane, 2024).

Despite a global shift toward integrating QI and leadership competencies in nursing education, many new nurses in Nepal enter clinical practice without adequate preparation for quality and safety initiatives (Kovner et al., 2010; Tschannen et al., 2021). While international evidence consistently links effective leadership to improved patient outcomes and stronger organizational cultures (Cummings et al., 2021; Wong et al., 2013), limited research has examined how nursing leadership influences QI engagement among nursing students in Kathmandu Valley. This gap underscored the need to understand students' awareness, involvement, and perceptions of leadership effectiveness, as well as the contextual challenges shaping their participation in QI. Therefore, this study aimed to assess the role of nursing leadership in quality improvement initiatives among nursing students in Kathmandu Valley.

Methodology

This study employed a descriptive cross-sectional design to examine the role of nursing leadership in quality improvement (QI) initiatives among nursing students in Kathmandu Valley. The study population included nursing students from selected nursing institutions. A total of 422 students were selected through stratified random sampling. Data were collected using a structured questionnaire, and a pretest was conducted on 10% of the sample to ensure clarity and feasibility. Tool validity was ensured through expert review and translation checks, and reliability was assessed using Cronbach's alpha. Quantitative data were analyzed using descriptive statistics in SPSS to summarize students' awareness, participation, and perceptions of QI initiatives.

Results and Discussion

Corresponding Email: balayarn2000@gmail.com

ISSN: 2976- 1077 (Online)
Vol.5.Issue 3
Multi-disciplinary double-blind peer review journal

Table 1 Respondents' Socio-demographic Profile

Variables		Frequency (N)	Percent (%)
Age	15-20	371	87.9
	21-25	38	9.0
	26-30	13	3.1
Gender	Male	25	5.9
	Female	397	94.1
Marital status	Unmarried	396	93.8
	Married	26	6.2
Level of Education	BN	25	5.9
	PCL Nursing	397	94.1
Year of Study	1st	299	70.9
	2nd	45	10.7
	3rd	78	18.5
Held any leadership role (e.g., class rep, committee member)	No	40	9.5
	Yes	382	90.5

Table 1 presents the socio-demographic profile of the respondents. The majority were aged 15–20 years (87.9%), predominantly female (94.1%), and mostly unmarried (93.8%). Most participants were enrolled in PCL Nursing (94.1%), with the largest proportion in their 1st year of study (70.9%). A significant majority (90.5%) reported having held a leadership role, such as class representative or committee member, indicating high engagement in student leadership activities.

Table 2 Nursing Students' Involvement in Quality Improvement Initiatives

Statements		SD	D	N	A	SA	Mean	S.D.
I have actively participated in quality improvement projects during my nursing program.	N	11	0	27	147	237	4.42	.828
	%	2.6	0.0	6.4	34.8	56.2		
I have been involved in the planning or design of quality improvement initiatives in my nursing program.	N	2	16	81	199	124	4.01	.826
	%	0.5	3.8	19.2	47.2	29.4		
I have actively contributed to the implementation of quality improvement initiatives.	N	4	10	89	238	81	3.91	.758
	%	0.9	2.4	21.1	56.4	19.2		
I regularly participate in meetings related to quality improvement initiatives.	N	9	20	50	212	131	4.03	.901
	%	2.1	4.7	11.8	50.2	31.0		
I have taken part in quality improvement discussions with faculty or healthcare professionals.	N	5	42	84	169	122	3.86	.987
	%	1.2	10.0	19.9	40.0	28.9		
I have been allowed to lead or coordinate quality improvement activities.	N	11	26	73	193	119	3.91	.964
	%	2.6	6.2	17.3	45.7	28.2		
I have been involved in gathering data for quality improvement projects.	N	3	58	42	159	160	3.98	1.046
	%	0.7	13.7	10.0	37.7	37.9		
	N	17	34	81	195	95	3.75	1.021

Corresponding Email: balayarn2000@gmail.com

Statements		SD	D	N	A	SA	Mean	S.D.
I have actively participated in evaluating the outcomes of quality improvement initiatives.	%	4.0	8.1	19.2	46.2	22.5		
I have contributed suggestions or ideas for improving quality during projects.	N	21	10	64	189	138	3.98	1.012
	%	5.0	2.4	15.2	44.8	32.7		
I am frequently involved in team activities aimed at improving quality in healthcare settings.	N	4	10	97	167	144	4.04	.867
	%	0.9	2.4	23.0	39.6	34.1		

Note: SD - Strongly Disagree, D - Disagree, N - Neutral, A - Agree, SA - Strongly Agree

Table 2 shows that nursing students were actively involved in quality improvement (QI) initiatives. The majority strongly agreed or agreed that they participated in QI projects (56.2% SA, 34.8% A; mean = 4.42, SD = 0.83), planning (29.4% SA, 47.2% A; mean = 4.01, SD = 0.83), and implementation (19.2% SA, 56.4% A; mean = 3.91, SD = 0.76). Regular participation in QI meetings (50.2% A, 31.0% SA; mean = 4.03, SD = 0.90) and discussions with faculty or healthcare professionals (40.0% A, 28.9% SA; mean = 3.86, SD = 0.99) further indicated consistent engagement.

Students also reported opportunities to lead or coordinate activities (45.7% A, 28.2% SA; mean = 3.91, SD = 0.96), gather data (37.7% A, 37.9% SA; mean = 3.98, SD = 1.05), evaluate outcomes (46.2% A, 22.5% SA; mean = 3.75, SD = 1.02), and provide suggestions (44.8% A, 32.7% SA; mean = 3.98, SD = 1.01). Overall, the findings reflect high and consistent participation of nursing students in QI initiatives, with slight variability in the depth of involvement across activities.

Table 3 Nurses' Awareness, Skills, and Perceptions of Leadership Effectiveness in Quality Improvement

Statements		SD	D	N	A	SA	Mean	S.D
Awareness								
I am aware of the role of leadership in driving quality improvement in healthcare settings.	N	8	24	113	183	94	3.78	.919
	%	1.9	5.7	26.8	43.4	22.3		
I understand the different leadership styles that can impact quality improvement efforts in healthcare.	N	0	20	67	178	157	4.12	.841
	%	0.0	4.7	15.9	42.2	37.2		
I am aware of the quality improvement initiatives currently implemented in my healthcare institution.	N	0	17	82	203	120	4.01	.801
	%	0.0	4.0	19.4	48.1	28.4		
I know the specific leadership strategies that have been proven effective in quality improvement efforts.	N	12	18	126	171	95	3.76	.945
	%	2.8	4.3	29.9	40.5	22.5		
I am familiar with the key outcomes of leadership-driven quality improvement initiatives.	N	15	57	124	159	67	3.49	1.026
	%	3.6	13.5	29.4	37.7	15.9		
	%	3.3	7.1	19.4	38.4	31.8		

Corresponding Email: balayarn2000@gmail.com

Skills								
I have received training on leadership skills relevant to quality improvement initiatives.	N	72	78	114	99	59	2.99	1.290
	%	17.1	18.5	27.0	23.5	14.0		
I feel confident in my ability to lead or contribute to quality improvement projects.	N	24	36	137	115	110	3.59	1.130
	%	5.7	8.5	32.5	27.3	26.1		
I possess the necessary communication skills to effectively lead or participate in quality improvement initiatives.	N	5	35	122	152	108	3.77	.965
	%	1.2	8.3	28.9	36.0	25.6		
I have the skills to critically evaluate quality improvement outcomes and suggest improvements.	N	19	22	99	171	111	3.79	1.034
	%	4.5	5.2	23.5	40.5	26.3		
I am capable of motivating and inspiring others to actively participate in quality improvement efforts.	N	4	26	93	172	127	3.93	.922
	%	0.9	6.2	22.0	40.8	30.1		
	%	3.3	7.1	19.4	38.4	31.8		
Perceptions								
I believe effective leadership is crucial for the success of quality improvement initiatives in healthcare.	N	11	26	64	155	166	4.04	1.013
	%	2.6	6.2	15.2	36.7	39.3		
In my experience, leaders who are actively involved in quality improvement projects have a positive impact on team performance.	N	8	9	44	100	261	4.41	.899
	%	1.9	2.1	10.4	23.7	61.8		
I believe that the leadership style in my healthcare institution promotes continuous quality improvement.	N	13	22	49	177	161	4.07	.990
	%	3.1	5.2	11.6	41.9	38.2		
I think that leadership plays a vital role in creating a culture of quality improvement within my institution.	N	2	20	54	158	188	4.21	.874
	%	0.5	4.7	12.8	37.4	44.5		
I feel supported by leadership when it comes to initiating or participating in quality improvement initiatives.	N	14	30	82	162	134	3.88	1.041
	%	3.3	7.1	19.4	38.4	31.8		

Note: SD - Strongly Disagree, D - Disagree, N - Neutral, A - Agree, SA - Strongly Agree

Table 3 presents nurses' awareness, skills, and perceptions regarding leadership effectiveness in quality improvement (QI) initiatives. Nurses demonstrated moderate to high awareness of leadership in quality improvement (QI). Most were aware of leadership roles (43.4% agree, 22.3% strongly agree; mean = 3.78, SD = 0.92), leadership styles (42.2% A, 37.2% SA; mean = 4.12, SD = 0.84), and current QI initiatives (48.1% A, 28.4% SA; mean = 4.01, SD = 0.80), although familiarity with specific leadership strategies and outcomes was lower (means = 3.76–3.49, SD = 0.95–1.03).

Skill-wise, nurses reported confidence in contributing to QI projects (27.3% A, 26.1% SA; mean = 3.59, SD = 1.13) and rated communication, evaluation, and motivational skills higher (means = 3.77–3.93, SD = 0.92–1.03). Formal leadership training was limited (23.5% A, 14.0% SA; mean = 2.99, SD = 1.29), indicating gaps in structured skill development.

Corresponding Email: balayarn2000@gmail.com

Perceptions of leadership effectiveness were strongly positive. Nurses agreed that leadership is crucial for QI success (36.7% A, 39.3% SA; mean = 4.04, SD = 1.01), enhances team performance (23.7% A, 61.8% SA; mean = 4.41, SD = 0.90), promotes continuous improvement (41.9% A, 38.2% SA; mean = 4.07, SD = 0.99), and fosters a culture of quality (37.4% A, 44.5% SA; mean = 4.21, SD = 0.87), with most feeling supported by leadership (38.4% A, 31.8% SA; mean = 3.88, SD = 1.04).

Table 4 Role of Nursing Leadership in Promoting and Sustaining Quality Improvement Engagement

Statements		A lot of the time	Some of the time	Very little / None of the time	Mean	S.D.
Demonstrating personal Qualities						
I reflect on how my own values and principles influence my behavior and impact on others	N	163	196	63	1.76	.693
	%	38.6	46.4	14.9		
I seek feedback from others on my strengths and limitations and modify my behavior accordingly	N	222	159	41	1.57	.664
	%	52.6	37.7	9.7		
I remain calm and focused under pressure	N	205	138	79	1.70	.765
	%	48.6	32.7	18.7		
I plan my workload and deliver on my commitments to consistently high standards demonstrating flexibility to service requirements	N	163	210	49	1.73	.656
	%	38.6	49.8	11.6		
I actively seek opportunities to learn and develop	N	271	121	30	1.43	.623
	%	64.2	28.7	7.1		
I apply my learning to practical work	N	290	98	34	1.39	.633
	%	68.7	23.2	8.1		
I act in an open, honest and inclusive manner - respecting other people's culture, beliefs and abilities	N	296	88	38	1.39	.647
	%	70.1	20.9	9.0		
I speak out when I see that ethics or values are being compromised	N	211	161	50	1.62	.689
	%	50.0	38.2	11.8		
Working with others						
I identify opportunities where working collaboratively with others will bring added value to patient care	N	201	171	50	1.64	.684
	%	47.6	40.5	11.8		
I share information and resources across networks	N	223	123	76	1.65	.767
	%	52.8	29.1	18.0		
I communicate clearly and effectively with others	N	246	150	26	1.48	.611
	%	58.3	35.5	6.2		
I listen to and take into account the needs and feelings of others	N	249	122	51	1.53	.701
	%	59.0	28.9	12.1		
I actively seek contributions and views from others	N	169	203	50	1.72	.664
	%	40.0	48.1	11.8		
I am comfortable managing conflicts of interests or differences of opinion	N	172	212	38	1.68	.631
	%	40.8	50.2	9.0		
	N	219	159	44	1.59	.673

Corresponding Email: balayarn2000@gmail.com

Statements		A lot of the time	Some of the time	Very little / None of the time	Mean	S.D.
I put myself forward to lead teams, whilst always ensuring I involve the right people at the right time	%	51.9	37.7	10.4		
I acknowledge and appreciate the efforts of others within the team and respect the team's decision	N	295	102	25	1.36	.591
	%	69.9	24.2	5.9		
Managing services						
I use feedback from patients, service users and colleagues when developing plans	N	295	102	25	1.31	.560
	%	69.9	24.2	5.9		
I assess the available options in terms of benefits and risks	N	216	183	23	1.54	.598
	%	51.2	43.4	5.5		
I deliver safe and effective services within the allocated resource	N	271	96	55	1.49	.715
	%	64.2	22.7	13.0		
I take action when resources are not being used efficiently and effectively	N	201	169	52	1.65	.690
	%	47.6	40.0	12.3		
I support team members in developing their roles and responsibilities	N	242	144	36	1.51	.649
	%	57.3	34.1	8.5		
I provide others with clear purpose and direction	N	236	136	50	1.56	.696
	%	55.9	32.2	11.8		
I analyze information from a range of sources about performance	N	247	156	19	1.46	.582
	%	58.5	37.0	4.5		
I take action to improve performance	N	252	138	32	1.48	.634
	%	59.7	32.7	7.6		
Improving services						
I take action when I notice shortfalls in patient safety	N	260	136	26	1.45	.609
	%	61.6	32.2	6.2		
I review practice to improve patient safety and minimize risk	N	280	126	16	1.37	.557
	%	66.4	29.9	3.8		
I use feedback from patients, careers and service users to contribute to improvements in service delivery	N	242	145	35	1.51	.646
	%	57.3	34.4	8.3		
I work with others to constructively evaluate our services	N	225	121	76	1.65	.768
	%	53.3	28.7	18.0		
I put forward ideas to improve the quality of services	N	253	146	23	1.45	.598
	%	60.0	34.6	5.5		
I encourage debate about new ideas with a wide range of people	N	130	252	40	1.79	.599
	%	30.8	59.7	9.5		
I articulate the need for change and its impact on people and services	N	134	234	54	1.81	.641
	%	31.8	55.5	12.8		
I focus myself and motivate others to ensure change happens	N	277	125	20	1.39	.578
	%	65.6	29.6	4.7		
Setting direction						
	N	113	219	90	1.95	.692

Corresponding Email: balayarn2000@gmail.com

Statements		A lot of the time	Some of the time	Very little / None of the time	Mean	S.D.
I identify the drivers of change (e.g. political, social, technical, economic, organizational, professional environment)	%	26.8	51.9	21.3		
I anticipate future challenges that will create the need for change and communicate these to others	N	129	222	71	1.86	.675
	%	30.6	52.6	16.8		
I use data and information to suggest improvements to services	N	254	136	32	1.47	.634
	%	60.2	32.2	7.6		
I influence others to use knowledge and evidence to achieve best practice	N	254	142	26	1.46	.610
	%	60.2	33.6	6.2		
I consult with key people and groups when making decisions taking into account the values and priorities of the service	N	191	200	31	1.62	.619
	%	45.3	47.4	7.3		
I actively engage in formal and informal decision-making processes about the future of services	N	202	164	56	1.65	.702
	%	47.9	38.9	13.3		
I take responsibility for embedding new approaches into working practices	N	189	176	57	1.69	.697
	%	44.8	41.7	13.5		
I evaluate the impact of changes on patients and service delivery	N	251	123	48	1.52	.692
	%	59.5	29.1	11.4		

Table 4 presents the role of nursing leadership in promoting and sustaining quality improvement (QI) engagement. Nurses demonstrated strong personal leadership, with 64.2% actively seeking learning (mean = 1.43, SD = 0.62), 68.7% applying learning to practice (mean = 1.39, SD = 0.63), and 70.1% acting with openness and inclusiveness (mean = 1.39, SD = 0.65). Reflection on values, seeking feedback, and remaining calm under pressure were also reported "a lot of the time" by 38.6–52.6% of participants (mean = 1.57–1.76, SD = 0.66–0.77). In teamwork, nurses communicated effectively (58.3%; mean = 1.48, SD = 0.61), listened to others (59.0%; mean = 1.53, SD = 0.70), and acknowledged team contributions (69.9%; mean = 1.36, SD = 0.59).

Leadership in managing and improving services was also evident. Nurses used feedback in planning (69.9%; mean = 1.31, SD = 0.56), delivered safe services (64.2%; mean = 1.49, SD = 0.71), and acted to enhance performance and patient safety (59.7–66.4%; mean = 1.37–1.48, SD = 0.56–0.63). Strategic leadership, including identifying drivers of change and anticipating challenges, was slightly lower, with 51.9–52.6% actively engaged (mean = 1.86–1.95, SD = 0.67–0.69), reflecting generally active but variable involvement in sustaining and promoting QI initiatives.

Table 5 Challenges and Facilitators that Influence the Integration of Nursing Students into Quality Improvement Processes

Variables		Frequency (N)	Percent (%)
Challenges	Lack of understanding of QI objectives	152	36.0
	Difficulty in managing clinical workload alongside QI involvement	260	61.6
	Limited access to mentorship or guidance from experienced professionals	176	41.7

Corresponding Email: balayarn2000@gmail.com

Variables		Frequency (N)	Percent (%)
	Lack of access to resources or tools for quality improvement	225	53.3
	Complex terminology and jargon used in QI processes	133	31.5
	Insufficient communication regarding QI opportunities from supervisors or staff	229	54.3
	Feeling overwhelmed by expectations in QI initiatives	169	40.0
	Lack of practical examples or case studies to understand QI	223	52.8
Facilitators	Support from clinical instructors or mentors	265	62.8
	Access to practical examples, case studies, and real-world applications	273	64.7
	Opportunities for interdisciplinary collaboration in QI projects	149	35.3
	Availability of dedicated time and resources for QI activities	201	47.6
	Mentorship from experienced professionals	196	46.4
	Training in quality improvement processes provided in the clinical setting	205	48.6
	Positive feedback and recognition for contributions to QI	220	52.1
	Clear communication and guidance on QI projects from supervisors	205	48.6

Table 5 presents the challenges and facilitators influencing the integration of nursing students into quality improvement (QI) processes. Key barriers included managing clinical workload alongside QI involvement (61.6%), insufficient communication from supervisors (54.3%), lack of resources (53.3%), and limited practical examples (52.8%). Other challenges were limited mentorship (41.7%), feeling overwhelmed (40.0%), lack of understanding of QI objectives (36.0%), and complex terminology (31.5%).

Facilitators that supported engagement included access to practical examples and real-world applications (64.7%), support from clinical instructors or mentors (62.8%), and positive feedback for contributions (52.1%). Other enablers were training in QI processes (48.6%), clear guidance from supervisors (48.6%), dedicated time and resources (47.6%), and mentorship from experienced professionals (46.4%), while interdisciplinary collaboration was less common (35.3%). These results highlight that structured guidance and practical support enhance student participation in QI initiatives.

Discussion

The findings indicate strong engagement of nursing students in QI activities, particularly in participation, planning, implementation, and data collection, with lower involvement in evaluation. James et al. (2016) reported that student-led QI practicums improved skills and sense of achievement but noted barriers such as limited time and insufficient support, which may explain lower evaluation scores. Similarly, Strand and Tveit (2020) found that supervised, small-scale QI projects enhanced students' competence in planning and implementation, aligning with the high mean scores observed in this study. These results suggest that experiential QI learning effectively promotes engagement, while contextual challenges limit deeper involvement in evaluation.

Corresponding Email: balayarn2000@gmail.com

Nursing students demonstrated strong awareness of leadership effectiveness in QI (e.g., 79.4% awareness of leadership styles; 76.5% awareness of ongoing initiatives), but showed lower familiarity with specific strategies and QI outcomes (53.6%). Similar patterns were reported in Jordan, where nursing students had only moderate overall QI knowledge (Omar et al., 2024), and in a qualitative study where 70% of students felt unprepared for leadership roles despite recognizing its importance (Aydogdu, 2023). These findings suggest that while students have a solid foundational understanding of leadership in QI, more experiential, outcome-focused training is needed to strengthen practical leadership skills and readiness to lead effective QI initiatives.

While formal leadership training among nursing students was low (37.5%, mean = 2.99) and confidence in leading QI projects only moderate (53.4%, mean = 3.59), students still exhibited considerable leadership strengths, especially in motivating others (70.9%), critical evaluation (66.8%), and communication (61.6%) and held generally positive perceptions about leadership's role in QI success and institutional culture. These findings are consistent with existing literature, which indicates that undergraduate nursing curricula often underemphasize leadership skills, leaving gaps in delegation, prioritization, and resource management (Abdul-Rahim et al., 2025). A qualitative study similarly found that about 40% of student nurses had not received formal leadership training, and 70% felt unprepared for leadership roles, despite recognizing communication as a key competency (Aydogdu, 2023). Moreover, controlled interventions embedding leadership competencies into baccalaureate programs have demonstrated significant improvements in students' leadership abilities over time (Hsieh et al., 2022), and participatory learning approaches focusing on teamwork, decision-making, and communication have been shown to further enhance self-perceived leadership skills (Martin-Ferreres et al., 2025). Taken together, these comparisons suggest that while nursing students demonstrate foundational leadership skills and positive attitudes toward QI, structured training through experiential learning, participatory projects, and simulation is needed to enhance their readiness to lead and sustain QI initiatives.

Students reported barriers to QI engagement, including heavy workload (61.6%), limited communication (54.3%), lack of resources (53.3%), and insufficient mentorship (41.7%), while key facilitators included practical examples (64.7%), mentor support (62.8%), positive feedback (52.1%), dedicated time/resources (47.6%), training (48.6%), and clear guidance (48.6%). These findings align with prior study showing that time constraints, limited resources, and lack of training hinder QI participation, whereas mentorship, leadership support, education, and a positive culture promote engagement (Alexander et al., 2022). Addressing these barriers through structured training, clear guidance, mentorship, and resource allocation can enhance nursing students' participation and sustain engagement in QI initiatives.

Conclusion

The study concludes that nursing students in Kathmandu Valley actively engage in quality improvement (QI) initiatives, particularly in participation, planning, implementation, and data collection, while involvement in evaluation remains comparatively lower. Students demonstrate moderate to high awareness of leadership effectiveness, possess foundational skills in communication, motivation, and critical evaluation, and hold positive perceptions regarding leadership's role in fostering a culture of quality. However, formal leadership training is limited, and barriers such as heavy workload, insufficient mentorship, and lack of resources constrain deeper engagement. Structured guidance, experiential learning, and practical support were identified as key facilitators to enhance participation. Integrating structured leadership and QI training with hands-on projects is recommended to enhance students' capacity to lead and sustain quality improvement efforts.

Corresponding Email: balayarn2000@gmail.com

Reference

Abdul-Rahim, H. Z., Sharbini, S. H., Ali, M., Hashim, S. H., & Abdul-Mumin, K. H. (2025). Leadership and management skills for student nurses: A scoping review. *BMC Nursing*, *24*(1), 111. https://doi.org/10.1186/s12912-024-02603-7

Alexander, C. C., Tschannen, D., Hays, D., Clouse, M., Zellefrow, C., Amer, K. S., Lambert-Davis, J., Watson, T. H., Tovar, E. G., & Milner, K. A. (2022). An integrative review of the barriers and facilitators to nurse engagement in quality improvement in the clinical practice setting. *Journal of Nursing Care Quality*, *37*(1), 94–100. https://doi.org/10.1097/NCQ.0000000000000562

Aydogdu, A. L. F. (2023). Perceptions of nursing students about leadership: A qualitative study. *Nurse Education Today*, *128*, 105891. https://doi.org/10.1016/j.nedt.2023.105891

Blok, A. C., Alexander, C. C., Tschannen, D., & Milner, K. A. (2022). Quality improvement engagement: Barriers and facilitators: A comparison of frontline nurses, advanced practice nurses, and nurse leaders. *Nursing Management*, *53*(3), 16–24. https://doi.org/10.1097/01.NUMA.0000821708.46746.6f

Budhathoki, S. (2024, March 17). Nursing grievances against the state. *Nepali Times*. https://nepalitimes.com/here-now/nursing-grievances-against-the-state

Cummings, G. G., Lee, S., Tate, K., Penconek, T., Micaroni, S. P. M., Paananen, T., & Chatterjee, G. E. (2021). The essentials of nursing leadership: A systematic review of factors and educational interventions influencing nursing leadership. *International Journal of Nursing Studies*, *115*, 103842. https://doi.org/10.1016/J.IJNURSTU.2020.103842

Cummings, G. G., Tate, K., Lee, S., Wong, C. A., Paananen, T., Micaroni, S. P. M., & Chatterjee, G. E. (2018). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. *International Journal of Nursing Studies*, *85*, 19–60. https://doi.org/10.1016/J.IJNURSTU.2018.04.016

Ghimire, A., & Neupane, M. (2024). A generation at risk: The unseen consequences of Nepal's nursing shortage on undergraduate nursing students clinical education. *BMC Nursing*, *23*(1), 1–15. https://doi.org/10.1186/S12912-024-02578-5/TABLES/3

Hickey, J. V., & Giardino, E. R. (2019). The role of the nurse in quality improvement and patient safety. *The Journal of Neurological and Neurosurgical Nursing*, *8*(1), 30–36. https://doi.org/10.15225/pnn.2019.8.1.5

Hsieh, L. W., Chang, Y. C., & Yen, M. (2022). Improving leadership competence among undergraduate nursing students: Innovative objectives development, implementation, and evaluation. *Nursing Education Perspectives*, *43*(1), 24–29. https://doi.org/10.1097/01.NEP.0000000000000866

James, B., Beattie, M., Shepherd, A., Armstrong, L., & Wilkinson, J. (2016). Time, fear and transformation: Student nurses' experiences of doing a practicum (quality improvement project) in practice. *Nurse*

Corresponding Email: balayarn2000@gmail.com

Education in Practice, *19*, 70–78. https://doi.org/10.1016/j.nepr.2016.05.004

Kovner, C. T., Brewer, C. S., Yingrengreung, S., & Fairchild, S. (2010). New nurses' views of quality improvement education. *The Joint Commission Journal on Quality and Patient Safety*, *36*(1), 29-AP5. https://doi.org/10.1016/S1553-7250(10)36006-5

Lyle-Edrosolo, G., & Waxman, K. T. (2016). Aligning healthcare safety and quality competencies: quality and safety education for nurses (QSEN), the joint commission, and American nurses credentialing center (ANCC) magnet® standards crosswalk. *Nurse Leader*, *14*(1), 70–75. https://doi.org/10.1016/j.mnl.2015.08.005

Martin-Ferreres, M. L., Rodríguez-Higueras, E., Fuster-Linares, P., Wennberg-Capellades, L., Llauradó-Serra, M., Martín-Delgado, L., Alfonso-Arias, C., Agudo-Ugena, J., Casas-Güdel, M. J., Pilar-Caballo, S., Navarro-Gil, N., Jiménez-Herrera, M. F., & Gallart, A. (2025). Participatory learning to enhance leadership competence in nursing students: A feasibility study. *BMC Nursing*, *24*(1), 1342. https://doi.org/10.1186/S12912-025-03935-8

Omar, S. Al, Khalifeh, A. H., Hammad, B. M., & Abdelrahim, Z. M. (2024). Knowledge toward quality improvement among Jordanian nursing students: A cross-sectional study. *PLOS ONE*, *19*(10), e0311786. https://doi.org/10.1371/journal.pone.0311786

Shrestha, M., & Mandal, P. K. (2021). Emotional intelligence among nursing students of a government campus in eastern Nepal. *Journal of Kathmandu Medical College*, *10*(1), 39–42. https://doi.org/10.3126/jkmc.v10i1.38970

Strand, K., & Tveit, B. (2020). Planning and implementing quality improvement projects in clinical practice: Third-year nursing students' learning experiences. *Journal of Clinical Nursing*, *29*(23–24), 4769–4783. https://doi.org/10.1111/jocn.15521

Tschannen, D., Alexander, C., Taylor, S., Tovar, E. G., Ghosh, B., Zellefrow, C., & Milner, K. A. (2021). Quality improvement engagement and competence: A comparison between frontline nurses and nurse leaders. *Nursing Outlook*, *69*(5), 836–847. https://doi.org/10.1016/J.OUTLOOK.2021.02.008

Wong, C. A., Cummings, G. G., & Ducharme, L. (2013). The relationship between nursing leadership and patient outcomes: A systematic review update. *Journal of Nursing Management*, *21*(5), 709–724. https://doi.org/10.1111/JONM.12116

Corresponding Email: balayarn2000@gmail.com