

## Views of MBBS Students and Healthcare Workers on Quality Improvement in Tertiary Care Hospitals

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### ABSTRACT

Quality improvement (QI) in healthcare is pivotal for enhancing patient outcomes, safety, and system efficiency. This cross-sectional study explores the perceptions of QI among 100 MBBS students and interns from NIMS University, Jaipur, Rajasthan, and 60 nursing staff from Government Medical College, Greater Noida, Uttar Pradesh. Using a validated Likert-scale questionnaire, we assessed awareness, attitudes, and engagement with QI initiatives. Findings revealed moderate to high awareness among medical students, with interns demonstrating greater familiarity with QI tools such as Plan-Do-Study-Act (PDSA) cycles. Nursing staff exhibited practical engagement but limited formal training in QI methodologies. Barriers included lack of structured training, hierarchical constraints, and limited interprofessional collaboration. The study underscores the need for integrated QI education across disciplines and recommends institutional support for capacity building. These insights can inform curriculum reforms and policy-level interventions to foster a culture of continuous improvement in tertiary care settings.

**Keywords:** Quality improvement, medical education, nursing staff, tertiary care, perceptions, interprofessional collaboration

### 1. INTRODUCTION

Quality improvement (QI) is a systematic approach to enhancing healthcare delivery by identifying inefficiencies and implementing evidence-based changes. In India, tertiary care hospitals serve as critical hubs for specialized services, making QI initiatives essential for patient safety and operational excellence. Medical students and nursing staff are frontline contributors to care delivery, yet their engagement with QI remains underexplored.

A useful instrument for evaluating the results of hospital treatment is the patient satisfaction survey. Since many patients come to the outpatient department (OPD) for clinical services, it is an extremely important element of any hospital's offerings. Data on the quality of services provided by OPD will be used for two purposes: to pinpoint areas where the services provided need to be improved and to draw attention to the need of remedial measures. Every hospital aims to achieve patient happiness, which is the primary factor in determining the quality of patient treatment.

## 2. LITERATURE REVIEW

Global literature highlights the necessity of experiential learning in QI for medical students and healthcare workers. Previous studies have shown that hands-on involvement leads to improved awareness and better patient outcomes. In India, there is growing recognition of the need for interprofessional collaboration in QI projects.

A cross-sectional, *Nilakantam, (2021) et al* by descriptive study was conducted among 600 patients using a structured questionnaire for assessing the levels of patient satisfaction. The overall satisfaction rate in this study was 97.2%, with major satisfiers being clinical care provided by doctors and nursing staffs and few patients were not satisfied with cleanliness of toilets and medications' availability.

Patient satisfaction survey may be a good audit tool and it should be used to improve the standard of services. According to the patient's opinion, the study showed good satisfaction with respect to reception and registration services, physical facilities, doctor's services, nursing services, laboratory services, and pharmacy services. Few deficient areas are identified in terms of service delivery and the same will be bridged as early as possible to achieve universal patient satisfaction.

In a study conducted by *Clemmer et al.*, a quasi-experimental, before-and-after trial was implemented to assess the impact of a structured quality improvement (QI) program on intensive care unit (ICU) outcomes and costs. The study, carried out in a tertiary ICU setting, analyzed patient data from 1991 to 1995 and utilized historical controls to account for external variables. The intervention included the application of statistical and scientific QI methods alongside efforts to transform ICU staff culture and clinical behavior. Outcomes such as severity of illness, ICU/hospital length of stay, mortality rates, and hospital costs were evaluated. The program led to marked improvements in clinical practices including glucose regulation, enteral nutrition, antibiotic administration, and sedation use, as well as reduced reliance on lab tests, radiographs, and blood gases. Importantly, a severity-adjusted hospital cost reduction of approximately \$2.58 million (in 1991 dollars) was observed by 1995, with the majority of savings stemming from areas directly affected by the intervention, demonstrating that targeted quality enhancement strategies can improve patient care while significantly lowering expenses.

## METHODOLOGY

A descriptive cross-sectional study was conducted in July 2025 at:

- NIMS University, Jaipur (100 MBBS students and interns)
- Government Medical College, Greater Noida (60 nursing staff)

Ethical Approval: Was not deemed to be necessary for this study.

Purposive sampling was used.

Inclusion criteria:

- Final-year MBBS students and interns
- Registered nursing staff with  $\geq 1$  year of clinical experience

A structured Likert-scale questionnaire was developed using validated tools such as the SERVQUAL model and BASiC-QI survey. Sections included:

- Awareness of QI concepts
- Attitudes toward QI
- Engagement in QI activities
- Perceived barriers and facilitators

Data were analyzed using SPSS v26. Descriptive statistics and chi-square tests were applied. Thematic analysis was used for qualitative responses.

## 3. RESULTS

Awareness and Understanding:

- 82% of interns were familiar with QI terminology (e.g., PDSA cycles, root cause analysis).
- Only 56% of nursing staff reported formal exposure to QI concepts.

Attitudes Toward QI:

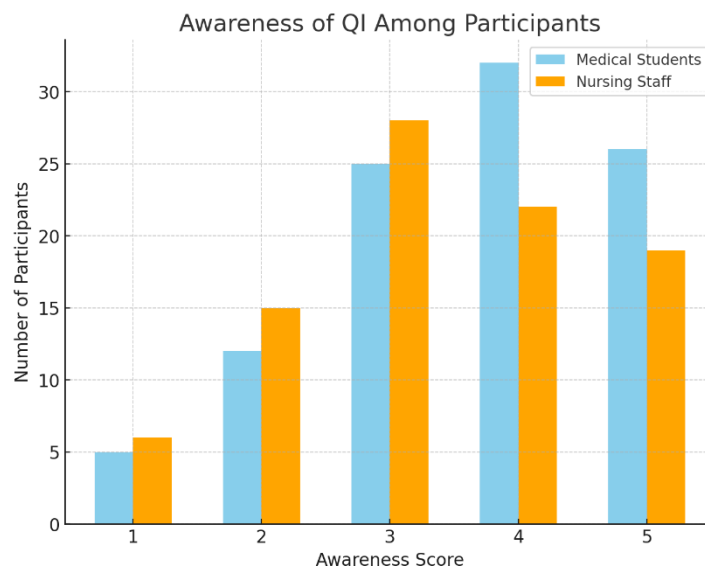
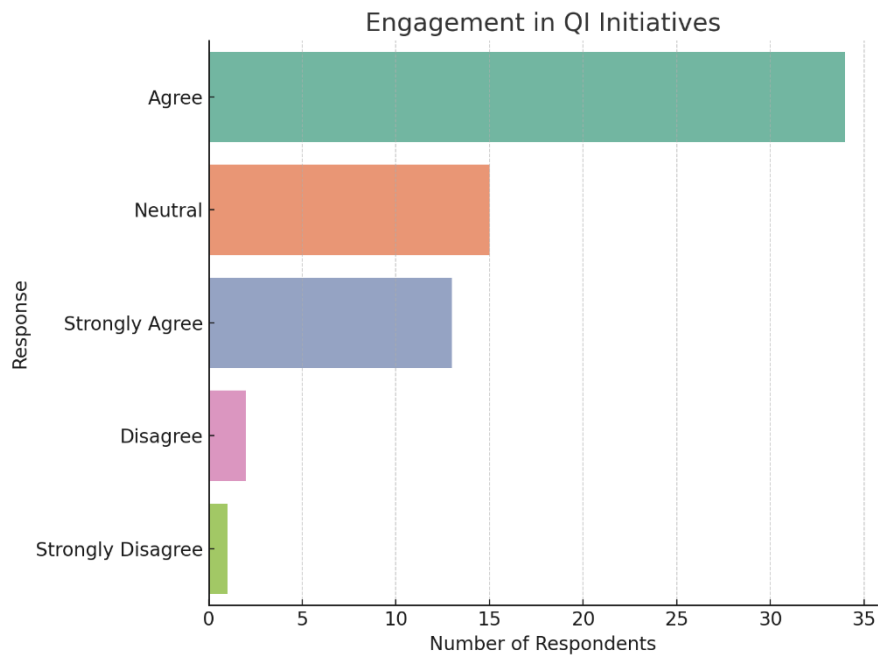
- 74% of medical students agreed that QI improves patient safety.
- 68% of nurses believed QI initiatives are often top-down and lack frontline input.

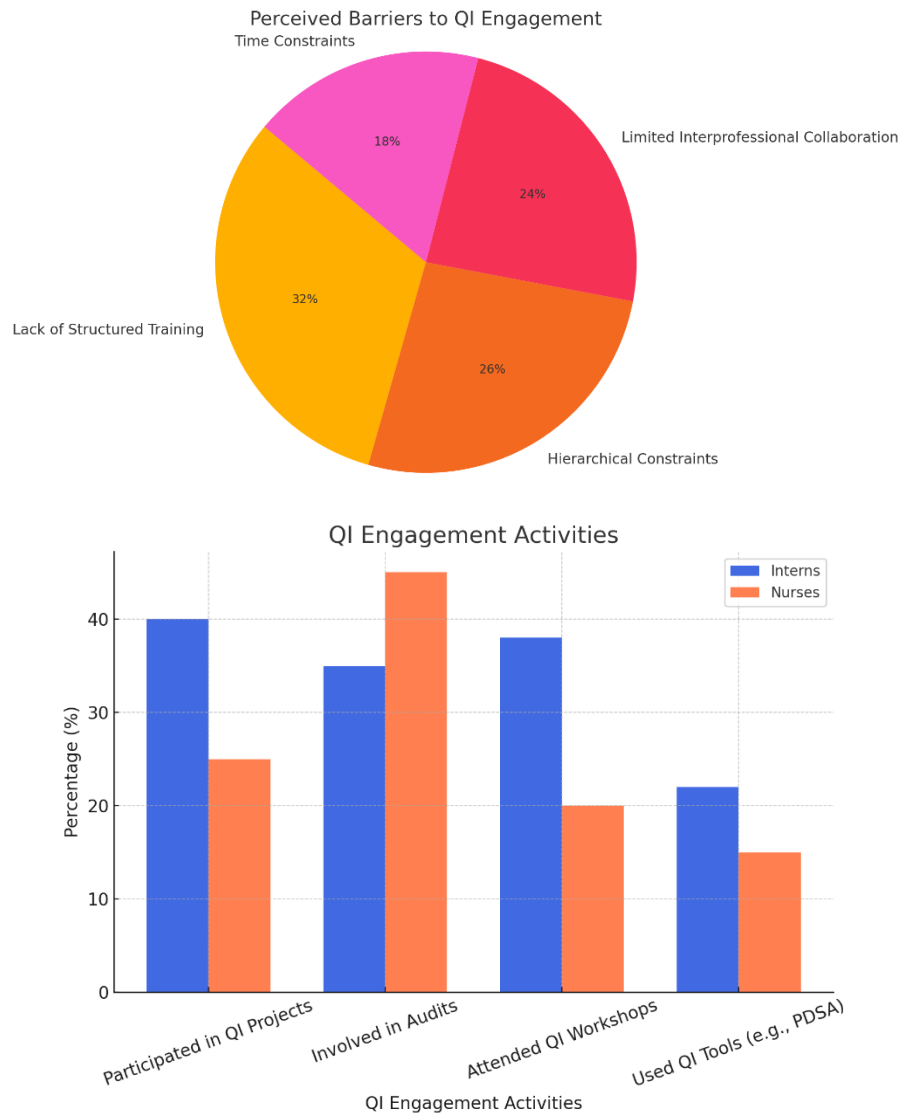
#### Engagement and Practice:

- 40% of interns had participated in QI projects.
- 52% of nurses reported informal involvement in QI (e.g., hand hygiene audits).

#### Barriers Identified:

- Lack of structured training (78%)
- Hierarchical constraints (65%)
- Limited interprofessional collaboration (59%)





#### 4. DISCUSSION

The findings of the study resonate strongly with global research highlighting the importance of experiential learning in quality improvement (QI) education. Medical students, although well-versed in theoretical aspects of QI, often lacked the hands-on experience necessary to apply these principles effectively in clinical settings. In contrast, nurses, despite receiving little to no formal QI training, were able to contribute valuable practical insights drawn from their day-to-day clinical interactions. However, deeply entrenched organizational hierarchies and a general lack of interdisciplinary collaboration emerged as significant obstacles to the successful implementation of QI initiatives. These barriers often hinder open communication, limit the flow of ideas across professional boundaries, and create resistance to change. To address these challenges, it is essential for healthcare institutions to adopt structural reforms that promote a more inclusive and team-based culture. Furthermore, integrating experiential QI components into medical and nursing curricula can bridge the gap between theory and practice. This dual approach—targeting both educational design and institutional culture—can empower healthcare professionals at all levels to contribute more effectively to QI efforts, ultimately leading to improved patient outcomes and system-wide enhancements in care quality.

#### 5. CONCLUSIONS

This study highlights varied perceptions and engagement levels with QI among medical students and nursing staff. Institutional reforms and educational strategies are essential to foster a culture of continuous improvement and patient-centered care in tertiary hospitals.

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