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Effect of Nursing Quality Indicators on Attitude and Performance of Nursing Staff: A Cross-Sectional Study in Tertiary Care Hospital, Bhopal, India.

Abstract
Background *Quality indicators are essential tools for measuring healthcare performance and improving patient safety. Nursing professionals play a key role in maintaining healthcare standards, and their knowledge, attitude, and performance influence the effectiveness of quality improvement programs.* ***Aim*** *To assess the effect of quality indicators on attitude and performance of nursing staff working in tertiary care hospitals.* ***Methods*** *A quantitative cross-sectional study was conducted among 250 registered nursing professionals working in selected tertiary care hospitals. Participants were selected using stratified random sampling. Data were collected using a structured tool consisting of demographic variables, quality indicator knowledge scale, attitude scale, and nursing performance assessment checklist. Data were analysed using descriptive and inferential statistics including Chi-square test, Pearson correlation, and multiple regression analysis.* ***Results*** *Among 250 nurses, 64% demonstrated good knowledge regarding quality indicators, 28% had moderate knowledge, and 8% had poor knowledge. A positive attitude toward quality indicators was observed among 74% of nurses. High performance levels were identified among 68% of participants. Significant positive correlations were found between knowledge and attitude ($r=0.65$, $p<0.001$), knowledge and performance ($r=0.72$, $p<0.001$), and attitude and performance ($r=0.76$, $p<0.001$). Quality indicator awareness explained 52% of variance in nursing performance.* ***Conclusion*** *Quality indicators significantly influence nursing attitude and performance. Continuous training, quality audits, and feedback mechanisms enhance nurses' commitment toward patient safety and quality improvement.*
Keywords: *Quality indicators, nursing-sensitive indicators, nursing performance, patient safety, quality improvement, attitude.*

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I. INTRODUCTION

Healthcare quality has become a global priority due to increasing patient expectations, technological advancement, and the growing emphasis on patient safety. Healthcare organizations are adopting systematic quality improvement approaches to monitor care delivery and improve outcomes.

Nurses represent the largest group of healthcare professionals and provide continuous bedside care. Their clinical decisions, communication practices, documentation, medication administration, and infection prevention activities directly influence patient outcomes.

Quality indicators are measurable parameters used to evaluate healthcare structures, processes, and outcomes. Nursing-sensitive indicators specifically reflect the contribution of nursing care to patient outcomes, including prevention of falls, pressure injuries, medication errors, infection rates, patient satisfaction, and documentation compliance.

The implementation of quality indicators not only measures healthcare performance but also promotes professional accountability, teamwork, evidence-based practice, and continuous improvement among nurses.

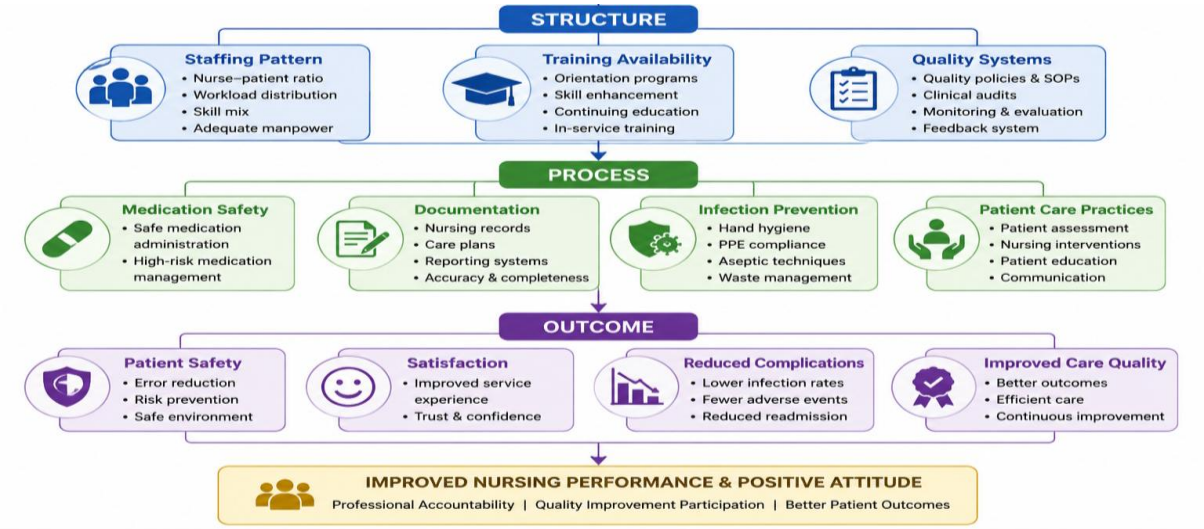
Despite widespread adoption of quality measurement systems, limited studies have explored how quality indicators influence nurses' attitudes and daily clinical performance. Therefore, this study was conducted to assess the relationship between quality indicators, nursing attitudes, and professional performance.

Research Objectives

1. To assess knowledge regarding quality indicators among nursing staff.
2. To determine attitude of nursing staff toward quality indicators.
3. To assess nursing performance related to quality standards.
4. To determine relationship between knowledge of quality indicators and attitude.
5. To determine relationship between quality indicator knowledge and nursing performance.
6. To identify factors influencing nursing performance related to quality indicators.

Hypotheses
H1: There is a significant association between knowledge of quality indicators and attitude among nursing staff.
H2: There is a significant relationship between quality indicator knowledge and nursing performance.
H3: Quality indicator awareness significantly predicts nursing performance.

Conceptual Framework
The study is based on **Donabedian's Structure–Process–Outcome Model**:



II. Methodology

Research Design
Quantitative descriptive cross-sectional research design.
Setting
Selected tertiary care hospitals with established quality monitoring systems, in Bhopal, India.
Population
Registered nursing staff involved in direct patient care. Period of three months of 2026
Sample Size
250 nursing professionals.
Sampling Technique
Stratified random sampling from:

- Medical units
- Surgical units
- ICU
- Emergency department
- Outpatient departments

Inclusion Criteria

- Registered nurses
- Minimum 6 months clinical experience
- Willing participants

Exclusion Criteria

- Nursing students
- Interns
- Administrative staff without clinical responsibilities

Tools Used
Tool I: Demographic Data
Variables:

- Age
- Gender
- Qualification
- Experience
- Department

Tool II: Quality Indicator Knowledge Scale
20 items.
Scoring:

- Correct answer = 1
- Wrong answer = 0

Interpretation:

- Poor: 0–7
- Moderate: 8–14
- Good: 15–20

Tool III: Attitude Scale
30-item Likert scale assessing:

- Accountability
- Patient safety commitment
- Quality improvement participation
- Professional responsibility

Tool IV: Performance Assessment Checklist
Domains:

- Clinical performance
- Safety practices
- Communication practices

High >90%
Moderate ≥60-89%
Low <60

Reliability and Validity
Content validity was established by experts in nursing administration, education, and quality management.
Reliability:

- Knowledge scale α = 0.86
- Attitude scale α = 0.89
- Performance scale α = 0.92

III. Results and Data Analysis

Table 1: Demographic Characteristics of Nursing Staff (n=250)

Variable	Category	Frequency (f)	Percentage (%)
Age	<25 years	42	16.8
	25–35 years	120	48.0
	36–45 years	62	24.8
	>45 years	26	10.4
Gender	Male	70	28.0
	Female	180	72.0
Educational Qualification	GNM	68	27.2
	B.Sc Nursing	155	62.0
	Post Basic B.Sc Nursing	27	10.8
Clinical Experience	6 months–5 years	105	42.0
	6–10 years	90	36.0
	>10 years	55	22.0
Working Area	Medical Ward	60	24.0
	Surgical Ward	55	22.0
	ICU	55	22.0
	Emergency	40	16.0
	Other Areas	40	16.0

Interpretation:
Nearly half (48%) of participants belonged to the age group of 25–35 years. Majority were female nurses (72%), and most participants had B.Sc Nursing qualification (62%). Maximum nurses had 6 months–10 years of clinical experience.

Table 2: Overall Knowledge Level Regarding Nursing Quality Indicators

Knowledge Level	Score Range	Frequency	Percentage
Good Knowledge	15–20	160	64%
Moderate Knowledge	8–14	70	28%

Poor Knowledge	0–7	20	8%

Mean Knowledge Score: 15.8 ± 3.2
Maximum Score: 20
Interpretation:
Majority of nurses (64%) had good knowledge regarding nursing quality indicators.

Domain-wise Knowledge Analysis

Knowledge Domain	Mean Score (%)
Understanding of Quality Indicators	82%
Nursing Sensitive Indicators	78%
Patient Safety Indicators	85%
Quality Improvement Process	76%
Accreditation Standards	71%

Interpretation:
Highest knowledge was observed in patient safety indicators, whereas accreditation-related indicators showed comparatively lower knowledge.

Table 3: Attitude Toward Quality Indicators

Attitude Level	Frequency	Percentage
Positive	185	74%
Neutral	45	18%
Negative	20	8%

Mean Attitude Score: 121.4 ± 10.8
Maximum Score: 150

Domain-wise Attitude Analysis

Attitude Domain	Positive Response
Professional Accountability	82%
Patient Safety Commitment	86%
Participation in Quality Improvement	76%
Evidence Based Practice	79%

Interpretation:
Nurses showed strongest positive attitude toward patient safety commitment.

Table 4: Nursing Performance Level

Performance Category	Score	Frequency	Percentage
High Performance	>90%	170	68%
Moderate Performance	60–89%	60	24%
Low Performance	<60%	20	8%

Mean Performance Score: 86.5 ± 8.7

Domain-wise Performance Analysis

Performance Domain	Compliance
Medication Safety	88%
Documentation Practices	84%
Infection Prevention	91%
Patient Care Practices	87%
Communication Practices	82%

Interpretation:
Highest performance was observed in infection prevention practices.

Association Between Demographic Variables and Knowledge Level
Chi-Square Test

Variable	χ^2 value	p value	Result
Age	9.84	0.019	Significant
Qualification	14.62	0.001	Significant
Experience	11.45	0.009	Significant
Department	6.72	0.152	Not significant

Interpretation:
Knowledge of quality indicators was significantly associated with age, educational qualification, and clinical experience.

Association Between Demographic Variables and Performance

Variable	χ^2 value	p value	Result
Qualification	18.54	<0.001	Significant
Experience	13.20	0.004	Significant
Department	12.10	0.007	Significant

Interpretation:
Higher qualification and clinical experience were associated with better nursing performance.

Correlation Analysis

Variables Compared	Correlation (r)	p value	Interpretation
Knowledge & Attitude	0.65	<0.001	Strong positive correlation
Knowledge & Performance	0.72	<0.001	Strong positive correlation
Attitude & Performance	0.76	<0.001	Strong positive correlation

Interpretation:
Improved knowledge of quality indicators was associated with better attitude and clinical performance.

Multiple Regression Analysis Predicting Nursing Performance
Dependent Variable:
Nursing Performance Score
Predictors:

- Knowledge score
- Attitude score
- Clinical experience
- Educational qualification

Predictor	β value	p value
Knowledge Score	0.41	<0.001
Attitude Score	0.38	<0.001
Experience	0.19	0.006
Qualification	0.16	0.018

Model:
$R^2 = 0.52$
Adjusted $R^2 = 0.49$
$F = 66.8$
$p < 0.001$
Interpretation:
The regression model explained **52% of variation in nursing performance**. Knowledge and attitude toward quality indicators were the strongest predictors of nursing performance.
Hypothesis Testing Summary

Hypothesis	Result
H1: Knowledge significantly associated with attitude	Accepted
H2: Knowledge significantly related to performance	Accepted
H3: Quality indicator awareness predicts performance	Accepted

IV. Discussion

The present study demonstrated that nursing quality indicators have a significant influence on nurses' attitude and professional performance. Nurses with higher knowledge scores demonstrated greater commitment toward patient safety, documentation accuracy, infection prevention, and evidence-based practice.

The findings indicate that quality indicator awareness acts as an important driver of professional accountability. Nurses who understand quality standards are more likely to participate in audits, follow clinical protocols, and adopt improvement strategies.

The strong correlation between attitude and performance suggests that positive perceptions toward quality improvement contribute to better clinical outcomes. These findings support Donabedian's Structure–Process–Outcome framework, where effective systems and care processes lead to improved outcomes.

V. Conclusion

Quality indicators positively influence nursing attitudes and performance. Nurses who understand quality indicators are more likely to participate actively in quality improvement initiatives and deliver safer patient care. Healthcare organizations should strengthen quality indicator education, regular monitoring, performance feedback, and nurse-led improvement activities.

Recommendations

1. Regular quality indicator training programs for nursing staff.
2. Monthly quality performance feedback sessions.
3. Integration of nursing-sensitive indicators into appraisal systems.
4. Development of nurse-driven quality improvement projects.
5. Conduct multicentric longitudinal studies.