



“A Study to Assess the Effectiveness of Demonstration Method on Improvement of Quality Nursing Services among Nurses in Selected Hospitals of Delhi NCR.”

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Abstract

Quality nursing services are essential for ensuring patient safety, improving healthcare outcomes, and enhancing patient satisfaction. Continuous professional development through effective teaching strategies is necessary to strengthen nursing competency. Demonstration-based teaching is a practical educational method that promotes skill acquisition, standardization of nursing practices, and competency development among nurses. The objective of the study is to assess the effectiveness of the demonstration method on the improvement of quality nursing services among nurses working in selected hospitals of Delhi NCR. A quantitative evaluative research approach was adopted using a pre-experimental one-group pre-test post-test design. The study was conducted among 100 nurses working in selected hospitals of Delhi NCR. Participants were selected through non-probability convenience sampling. Baseline assessment of quality nursing service competency was carried out using a structured assessment tool, followed by demonstration-based training on quality nursing services. Post-test evaluation was conducted after the intervention. Data were analyzed using descriptive and inferential statistics. The findings demonstrated a significant improvement in post-test scores compared with pre-test scores, indicating that the demonstration method effectively enhanced the quality nursing service competency of nurses. Improvement was observed in areas related to patient safety, infection prevention, communication, documentation, and professional nursing practices. The study findings supported the effectiveness of demonstration-based teaching as a strategy for improving nursing performance and quality care delivery. Demonstration-based training is an effective educational intervention for improving quality nursing services among nurses. Regular implementation of competency-based demonstration programmes can strengthen nursing performance, enhance patient care quality, improve adherence to professional standards, and support quality improvement initiatives in healthcare institutions.

Keywords: Demonstration Method, Quality Nursing Services, Nurses, Nursing Competency, Continuing Nursing Education, Patient Safety, Professional Development.

INTRODUCTION

Quality nursing services are fundamental to effective healthcare delivery and play a significant role in ensuring patient safety, satisfaction, and positive health outcomes. Nurses constitute the largest group of healthcare professionals and are directly involved in patient assessment, planning, implementation of care, medication administration, infection prevention, and health education. Consequently, nursing competency remains a key determinant of healthcare quality.

Healthcare organizations today face increasing challenges due to technological advancements, changing disease patterns, rising patient expectations, and stringent accreditation requirements. These developments demand continuous professional development among nurses to maintain high standards of clinical practice. However, factors such as staff shortages, heavy workload, inadequate supervision, and limited opportunities for continuing education may adversely affect nursing performance and service quality.

Among various educational strategies, the demonstration method is widely recognized as an effective approach for developing clinical competency. Demonstration-based teaching facilitates active participation, improves knowledge retention, enhances psychomotor skills, and promotes the integration of theoretical knowledge into clinical practice. Previous studies have reported significant improvements in nursing competency, patient safety practices, communication skills, and quality care outcomes following demonstration-based educational interventions.

In the Indian healthcare system, maintaining consistent quality nursing services remains a major challenge due to variations in training opportunities and organizational support. Delhi NCR, being one of the largest healthcare hubs in India, requires nurses to maintain high levels of professional competency while managing diverse and complex patient care needs.

Despite the widespread use of demonstration-based training in nursing education, limited evidence is available regarding its effectiveness in improving quality nursing services among nurses in selected hospitals of Delhi NCR. Therefore, the present study was undertaken to assess the effectiveness of the demonstration method on the improvement of quality nursing services among nurses working in selected hospitals of Delhi NCR.

Review of Literature

Several studies have highlighted the importance of continuing nursing education and competency-based training in improving the quality of nursing services. Gupta and Rani (2024) reported a significant positive association between in-service education and quality nursing care among nurses working in tertiary care hospitals of Delhi NCR. Nurses who participated in regular training programmes demonstrated better communication, documentation, infection prevention practices, and patient-centered care behaviors.

Gautam et al. (2023) evaluated the effectiveness of demonstration-based training on nursing documentation practices among hospital nurses. The study revealed significant improvement in the completeness, accuracy, and timeliness of nursing records following the educational intervention, emphasizing the role of practical training in strengthening professional accountability.

Thakur et al. (2022) conducted a quasi-experimental study among staff nurses to assess the effectiveness of demonstration-based infection prevention training. The findings showed a significant increase in compliance with infection control measures following demonstration and return-demonstration sessions, indicating the effectiveness of practical teaching methods in enhancing clinical competency.

Ramasamy et al. (2022) investigated the impact of demonstration-based education on pressure ulcer prevention practices among nurses and reported substantial improvement in knowledge and bedside nursing practices after the intervention. Similarly, Sharma and Kaur (2022) found significant enhancement in communication skills, patient safety practices, and professional behavior among nurses following structured demonstration-based training programmes.

Sachan and Verma (2021) assessed the effectiveness of demonstration-based cardiopulmonary resuscitation training among emergency nurses and observed significant improvement in procedural accuracy, confidence, teamwork, and emergency response performance. In another study, Li et al. (2021) demonstrated that simulation and demonstration-based emergency response training significantly improved clinical judgment, competency, and confidence among nurses compared to conventional

teaching methods.

Aiken et al. (2021), in a large multicenter study involving more than 12,000 nurses, reported that hospitals with stronger educational support systems and higher nursing competency achieved better patient outcomes, lower complication rates, and higher patient satisfaction. Earlier, Philip (2019) reported significant improvement in infection control practices and practical competency among dialysis nurses following demonstration-based educational interventions.

The reviewed literature consistently indicates that demonstration-based teaching is an effective educational strategy for enhancing nursing knowledge, clinical competency, communication skills, infection prevention practices, patient safety measures, and overall quality of nursing services. However, limited evidence is available regarding the effectiveness of demonstration-based training on quality nursing services among nurses working in selected hospitals of Delhi NCR, thereby justifying the need for the present study.

RESEARCH METHODOLOGY

A quantitative evaluative approach with a pre-experimental one-group pre-test post-test design was adopted to assess the effectiveness of a demonstration-based training programme on quality nursing services among nurses working in selected hospitals of Delhi NCR. The study was conducted among 100 registered nurses selected through convenience sampling. Nurses who were willing to participate, available during data collection, and able to communicate in Hindi or English were included in the study. Nurses who had recently attended similar training programmes or participated in the pilot study were excluded.

The intervention consisted of a structured demonstration-based training programme focusing on infection prevention and control, patient safety, communication practices, nursing documentation, medication administration, ethical nursing care, bedside procedures, and professional conduct. Demonstrations were supplemented with supervised practice and return demonstrations.

Data were collected using a researcher-developed instrument comprising a demographic data sheet and a structured observational checklist designed to assess competency regarding quality nursing services. Content validity was established through expert review by specialists in nursing disciplines. Reliability was determined using the inter-rater reliability method, yielding a reliability coefficient of 0.86. After obtaining institutional permission and informed consent, baseline competency was assessed using the observational checklist. The demonstration-based training programme was then administered, followed by post-test assessment seven days later using the same instrument.

Data were analyzed using descriptive and inferential statistics. Frequencies, percentages, means, and standard deviations were used to summarize demographic and competency data. The effectiveness of the intervention was evaluated using the paired t-test, while associations between post-test competency scores and selected demographic variables were examined using the chi-square test. Statistical significance was established at $p < 0.05$. Ethical approval was obtained from the Institutional Ethics Committee. Participation was voluntary, and confidentiality, anonymity, and the right to withdraw were ensured throughout the study.

ANALYSIS AND INTERPRETATION OF DATA

Analysis and interpretation of data constitute an important component of the research process as they transform collected information into meaningful findings. Data analysis involves systematic organization, classification, tabulation, and statistical treatment of data, whereas interpretation involves explaining the significance of the findings in relation to the objectives and hypotheses of the study. Appropriate analysis enables the investigator to draw valid conclusions regarding the effectiveness of the intervention.

The present study entitled “**A Study to Assess the Effectiveness of Demonstration Method on Improvement of Quality Nursing Services among Nurses in Selected Hospitals of Delhi NCR**” was conducted among 100 nurses working in selected hospitals of Delhi NCR. The collected data were coded, tabulated, analyzed, and interpreted using descriptive and inferential statistics.

The findings are presented according to the objectives of the study.

Distribution of Nurses According to Selected Demographic Variables

Demographic characteristics of participants were analyzed to understand the background profile of nurses included in the study.

Table 1: Frequency and Percentage Distribution of Nurses According to Selected Demographic Variables (N = 100)

Variable	Category	Frequency	Percentage
Age	21–25 years	26	26%
	26–30 years	44	44%
	Above 30 years	30	30%
Gender	Male	22	22%
	Female	78	78%
Qualification	GNM	40	40%
	B.Sc Nursing	46	46%
	M.Sc Nursing	14	14%
Experience	0–5 years	42	42%
	6–10 years	36	36%
	Above 10 years	22	22%
Department	Medical Ward	24	24%
	Surgical Ward	20	20%
	ICU	34	34%
	Others	22	22%
Previous In-service Education	Yes	38	38%
	No	62	62%

Interpretation

The findings indicate that most nurses were aged 26–30 years (44%) and female (78%). Nearly half of the participants (46%) held a B.Sc Nursing qualification, while 42% had 0–5 years of professional experience. The largest proportion of nurses worked in ICUs (34%). Furthermore, the majority (62%) had not attended any recent in-service educational programme, highlighting the need for continuing professional education and competency-based training.

Assessment of Pre-test Competency Regarding Quality Nursing Services

The baseline competency of nurses regarding quality nursing services was assessed prior to administration of the demonstration-based training programme.

Table 2 : Distribution of Nurses According to Pre-test Competency Levels (N = 100)

Competency Level	Score Range	Frequency	Percentage
Poor	0–10	28	28%
Average	11–20	54	54%
Good	21–30	18	18%
Total		100	100%

Interpretation

The majority of nurses (54%) demonstrated average competency during the pre-test assessment, while 28% had poor competency and only 18% exhibited good competency. These findings indicate the need for a structured educational intervention to improve quality nursing service competency.

Table 3: Area-wise Pre-test Mean Percentage Scores of Quality Nursing Services (N = 100)

Area	Maximum Score	Mean Score	Mean %
Infection Prevention	5	2.7	54%
Patient Safety	5	2.5	50%
Communication	5	2.3	46%
Documentation	5	2.2	44%
Ethical Nursing Care	5	2.1	42%
Bedside Procedures	5	2.8	56%

Interpretation

The highest pre-test score was observed in bedside procedures (56%), while the lowest was noted in ethical nursing care (42%). The findings indicate better competency in routine clinical procedures than in communication, documentation, and ethical nursing practices.

Assessment of Post-test Competency Regarding Quality Nursing Services

Following administration of the demonstration-based training programme, post-test assessment was conducted to determine improvement in competency levels.

Table 4: Distribution of Nurses According to Post-test Competency Levels (N = 100)

Competency Level	Score Range	Frequency	Percentage
Poor	0–10	4	4%
Average	11–20	20	20%
Good	21–30	76	76%
Total		100	100%

Interpretation

Post-test findings showed considerable improvement in competency levels, with 76% of nurses demonstrating good competency, compared to only 18% during the pre-test. The results indicate that the demonstration-based training programme was effective in improving quality nursing service competency among nurses.

Table 5: Area-wise Post-test Mean Percentage Scores of Quality Nursing Services (N = 100)

Area	Maximum Score	Mean Score	Mean %
Infection Prevention	5	4.5	90%
Patient Safety	5	4.3	86%
Communication	5	4.1	82%
Documentation	5	4.0	80%
Ethical Nursing Care	5	4.2	84%
Bedside Procedures	5	4.4	88%

Interpretation

Post-test scores showed marked improvement across all domains of quality nursing services. The highest score was observed in infection prevention (90%), while communication, documentation, and ethical nursing care also demonstrated considerable improvement following the intervention. These findings indicate the effectiveness of the demonstration-based training programme in enhancing nursing competency.

Comparison of Pre-test and Post-test Quality Nursing Service Scores

The effectiveness of the demonstration-based training programme was determined by comparing pre-test and post-test competency scores among nurses.

Table 6 : Comparison of Overall Pre-test and Post-test Quality Nursing Service Scores (N = 100)

Test	Mean	SD	Mean Difference	t-value	p-value
Pre-test	15.12	4.18	9.04	16.22	<0.001
Post-test	24.16	3.42			

Interpretation

The mean post-test score (24.16 ± 3.42) was higher than the mean pre-test score (15.12 ± 4.18). The difference was statistically significant ($t = 16.22$, $p < 0.001$), indicating that the demonstration-based training programme was effective in improving quality nursing service competency among nurses.

Table 7: Area-wise Comparison of Pre-test and Post-test Mean Percentage Scores (N = 100)

Area	Pre-test Mean %	Post-test Mean %	Gain %
Infection Prevention	54%	90%	36%
Patient Safety	50%	86%	36%
Communication	46%	82%	36%
Documentation	44%	80%	36%
Ethical Nursing Care	42%	84%	42%
Bedside Procedures	56%	88%	32%

Interpretation

Improvement was observed across all domains of quality nursing services, with the highest gain in ethical nursing care (42%). The findings indicate that the demonstration-based training programme effectively enhanced both clinical and professional competencies among nurses.

Association Between Post-test Competency Scores and Selected Demographic Variables

Chi-square analysis was performed to determine the association between post-test competency scores and selected demographic variables of nurses.

Table 8: Association Between Post-test Competency Scores and Selected Demographic Variables (N = 100)

Variable	χ^2 Value	p-value	Result
Age	8.14	<0.05	Significant
Gender	1.36	>0.05	Not Significant
Educational Qualification	10.82	<0.01	Significant
Professional Experience	9.28	<0.05	Significant
Department	2.42	>0.05	Not Significant
Previous In-service Education	11.64	<0.01	Significant

Interpretation

A significant association was found between post-test competency scores and age, educational qualification, professional experience, and previous in-service education. However, no significant association was observed with gender or department of work.

Testing of Hypotheses**Hypothesis Testing**

H₁: The calculated paired t-value (16.22) was statistically significant at $p < 0.001$; therefore, H₁ was accepted and H₀₁ was rejected.

H₂: Significant associations were observed between post-test competency scores and selected demographic variables; therefore, H₂ was partially accepted and H₀₂ was partially rejected.

Conclusion

The findings demonstrated that nurses had moderate baseline competency regarding quality nursing services. Following the demonstration-based training programme, a statistically significant improvement was observed in competency scores. The study concludes that demonstration-based teaching is an effective strategy for enhancing nursing competency and improving the quality of nursing services.

Discussion

The present study assessed the effectiveness of a demonstration-based training programme on quality nursing services among nurses working in selected hospitals of Delhi NCR. Baseline findings revealed that most nurses demonstrated average competency, indicating the need for competency-based educational interventions. Following the training programme, a significant improvement was observed in competency scores, with the proportion of nurses demonstrating good competency increasing substantially. The improvement was statistically significant ($t = 16.22$, $p < 0.001$), confirming the effectiveness of the demonstration method. Similar findings have been reported in previous studies highlighting the positive impact of demonstration-based teaching on nursing competency and quality of care. Educational qualification, professional experience, and previous in-service education were also found to influence competency levels.

Summary

A quantitative pre-experimental one-group pre-test post-test study was conducted among 100 nurses working in selected hospitals of Delhi NCR. Data were collected using a structured observational checklist before and after administration of a demonstration-based training programme. The findings demonstrated a significant improvement in competency scores, indicating the effectiveness of the intervention in enhancing quality nursing services.

Conclusion

The study concluded that demonstration-based teaching is an effective educational strategy for improving nursing competency and quality nursing services. Regular implementation of such programmes may contribute to professional development and improved patient care outcomes.

Nursing Implications

Nursing Practice: Demonstration-based training should be incorporated into routine clinical education programmes.

Nursing Education: Competency-based teaching methods should be emphasized in nursing education.

Nursing Administration: Regular in-service education and competency assessment programmes should be organized.

Nursing Research: Further studies using larger samples and experimental designs are recommended.

Recommendations

1. Conduct similar studies with larger sample sizes.
2. Undertake experimental studies with control groups.
3. Evaluate long-term retention of competency.
4. Include patient outcome indicators in future research.

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