

# A Study to Evaluate the Effectiveness of a Planned Teaching Programme on Common Nosocomial Infections Among 2nd Year B.Sc. Nursing Students at Meenakshi College of Nursing, Madurai

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**Abstract—Background:** Healthcare-associated infections, commonly known as nosocomial infections, are infections acquired during the course of receiving treatment in a healthcare facility and remain an important challenge to patient safety. Nursing students require adequate knowledge of infection prevention and control practices because of their direct involvement in patient care.

**Aim:** To evaluate the effectiveness of a planned teaching programme on common nosocomial infections among 2nd year B.Sc. Nursing students.

**Objectives:** (1) To assess pre-test knowledge regarding common nosocomial infections among 2nd year B.Sc. Nursing students. (2) To evaluate the effectiveness of the planned teaching programme by comparing pre-test and post-test knowledge scores. (3) To find the association between post-test knowledge scores and selected demographic variables.

**Methods:** The source thesis describes a structured educational intervention using lectures, charts and discussions, with knowledge assessed using pre-test and post-test scores. The available source does not provide sufficient details regarding the final sample size, research design, sampling technique, instrument scoring, statistical tests, ethical approval, or data-collection dates; these details therefore require completion from the full research record.

**Results:** The uploaded source does not contain the numerical pre-test/post-test results or statistical analysis. No numerical findings have been invented in this manuscript.

**Conclusion:** A planned teaching programme is proposed as an educational strategy to strengthen nursing students' knowledge regarding common nosocomial infections. The effectiveness of the

intervention should be reported using the actual study results and statistical analysis.

**Index Terms—**Nosocomial infections; healthcare-associated infections; planned teaching programme; nursing students; infection prevention; knowledge.

## I. INTRODUCTION

Healthcare-associated infections (HAIs), commonly known as nosocomial infections, are infections acquired by patients during the course of receiving treatment in a healthcare facility that were not present or incubating at the time of admission. The source thesis describes these infections as a major challenge because of their effects on patient morbidity, mortality, length of hospital stay and healthcare costs. Common nosocomial infections include urinary tract infections, surgical site infections, bloodstream infections and hospital-acquired pneumonia. The source identifies microorganisms such as *Staphylococcus aureus*, including MRSA, *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and *Clostridioides difficile*, and describes transmission through contaminated hands of healthcare workers, improper sterilization of instruments, contaminated hospital environments and invasive procedures.

The thesis emphasizes that nursing students play an important role in infection prevention and control. Knowledge of hand hygiene, personal protective equipment, aseptic techniques, biomedical waste management, sterilization, isolation techniques and

the chain of infection is essential for safe clinical practice.

## II. NEED FOR THE STUDY

Nosocomial infections represent a major public health and patient-safety concern. The source thesis notes that nursing professionals and students are directly involved in activities such as medication administration, dressings, handling invasive devices and maintaining hygiene. Consequently, adequate knowledge of infection-prevention measures is important for breaking the chain of infection.

The source further identifies potential knowledge gaps among nursing students, particularly in areas such as sterilization procedures, biomedical waste management, isolation techniques and the chain of infection. A structured planned teaching programme can provide systematic instruction and reinforce infection-control principles. Therefore, the present study was undertaken to evaluate such an intervention among 2nd year B.Sc. Nursing students.

## III. STATEMENT OF THE PROBLEM

A study to evaluate the effectiveness of a planned teaching programme on common nosocomial infections among 2nd year B.Sc. Nursing students in selected nursing colleges.

## IV. OBJECTIVES

1. To assess the pre-test knowledge regarding common nosocomial infections among 2nd year B.Sc. Nursing students.
2. To evaluate the effectiveness of the planned teaching programme by comparing the pre-test and post-test knowledge scores.
3. To find the association between post-test knowledge scores and selected demographic variables.

## HYPOTHESES

H0: There is no significant difference in the level of knowledge regarding common nosocomial infections among participants before and after the planned teaching programme.

H1: There will be a significant difference between pre-test and post-test knowledge scores regarding nosocomial infections among 2nd year students.

H2: There will be a significant association between post-test knowledge scores and selected demographic variables.

## OPERATIONAL DEFINITIONS

Effectiveness: The extent to which the planned teaching programme improves knowledge scores as measured by pre-test and post-test results.

Planned Teaching Programme (PTP): A structured educational session designed to improve knowledge about nosocomial infections using lectures, charts and discussions.

Nosocomial Infections: Infections acquired in a hospital setting after 48 hours of admission or within a defined period after discharge.

## VARIABLES

Independent variable: Planned Teaching Programme on common nosocomial infections.

Dependent variable: Level of knowledge regarding common nosocomial infections.

Extraneous/demographic variables identified in the source include age, gender, educational/professional qualification, year of study or years of experience, previous exposure to information on nosocomial infections, and source of information.

## V. METHODOLOGY

Research setting: Meenakshi College of Nursing, Madurai, as identified in the source thesis.

Study population: 2nd year B.Sc. Nursing students.

Intervention: A planned teaching programme on common nosocomial infections, described as structured education using lectures, charts and discussions.

Outcome assessment: Knowledge was assessed using pre-test and post-test scores.

Inclusion criteria: Participants were available during data collection, willing to participate, able to understand the language used for the tool, and had not participated in a similar structured teaching programme immediately before the study.

Exclusion criteria: Participants who were unavailable, unwilling, had attended a formal educational programme on nosocomial infections

immediately before the intervention, or were unable to complete the pre-test or post-test assessment were excluded.

Important methodological information such as the exact sample size, sampling technique, research design, questionnaire structure and scoring, duration of the intervention, data-collection procedure, ethical approval details and statistical tests is not present in the uploaded 13-page source and should be inserted from the full thesis before journal submission.

## VI. RESULTS

The uploaded document does not include the study's numerical results, tables, figures, pre-test and post-test scores, or statistical calculations. Therefore, this section is intentionally left without fabricated findings.

Recommended reporting format after the original results are supplied: participant characteristics; pre-test knowledge distribution; post-test knowledge distribution; comparison of pre-test and post-test mean knowledge scores; test statistic and p-value; and association between post-test knowledge and selected demographic variables.

## VII. DISCUSSION

The source thesis establishes the rationale for using a planned teaching programme to strengthen knowledge about common nosocomial infections among nursing students. It identifies infection prevention and control knowledge as an important component of safe clinical preparation. A complete discussion comparing the present findings with previous studies should be added only after the actual results and the study's reference list are available.

## VIII. CONCLUSION

The study addresses an important nursing-education issue: strengthening knowledge regarding common nosocomial infections among 2nd year B.Sc. Nursing students. The planned teaching programme is intended to provide systematic education on infection prevention and control. The final conclusion regarding effectiveness must be based on the actual pre-test and post-test results and statistical significance obtained in the study.

## IMPLICATIONS FOR NURSING

Nursing education: Structured teaching programmes may be incorporated to reinforce infection-prevention concepts during undergraduate nursing education.

Nursing practice: Improved knowledge may support safer infection-prevention practices during clinical postings.

Nursing research: Further studies may examine knowledge retention, clinical practice and the effectiveness of structured educational interventions using larger and diverse samples.

## IX. LIMITATIONS

The study is limited to 2nd year B.Sc. Nursing students, is conducted in one selected nursing college, focuses on knowledge regarding common nosocomial infections, and evaluates effectiveness through pre-test and post-test knowledge scores. The source also notes that long-term retention of knowledge is not assessed.

## X. RECOMMENDATIONS

1. Similar studies may be conducted with larger samples and multiple nursing institutions.
2. Future research may assess long-term retention of knowledge.
3. Further studies may evaluate the effect of educational interventions on actual infection-prevention practices.
4. Comparative studies may evaluate different teaching strategies for infection prevention and control.

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