

Knowledge, Attitude and Practices Regarding Infection Control Among Nursing Students: A Cross-Sectional Online Survey

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Abstract

Background: Infection control is a critical component of nursing practice to prevent healthcare-associated infections (HAIs). Nursing students must possess adequate knowledge, positive attitudes, and appropriate practices to ensure patient safety.

Materials and Methods: A cross-sectional online survey was conducted among 200 nursing students using a structured questionnaire. Data were analyzed using descriptive and inferential statistics.

Results: Majority of students had moderate knowledge (48%), positive attitude (62%), and good practices (55%). A significant association was found between knowledge and practice ($p < 0.05$).

Conclusion: Although attitudes and practices were satisfactory, knowledge gaps exist. Regular training and reinforcement programs are recommended.

Keywords: Infection control, Knowledge, Attitude, Practice, Nursing students, Cross-sectional study

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How to cite this article: Swami OP, Panchal TR, Soni S, Lal R, Agrawal H, Priya JSS. Knowledge, Attitude and Practices Regarding Infection Control Among Nursing Students: A Cross-Sectional Online Survey. SDES-IJIR; 2026; 7-2: 1415-1418

Submitted: 26-March-2026; **Accepted:** 25-April-2026; **Published:** 30-April-2026

Introduction

Healthcare-associated infections (HAIs) are a major global health problem affecting patient safety and increasing morbidity, mortality, and healthcare costs¹. Effective infection prevention and control (IPC) measures are essential to reduce these risks².

Nursing students, as future healthcare professionals, are at high risk of exposure to infectious agents due to clinical training and patient contact³. Adequate knowledge and adherence to infection control guidelines are essential to minimize occupational hazards⁴.

Studies have shown that while nursing students often demonstrate satisfactory knowledge, their

practical adherence to infection control measures may be inconsistent⁵. Furthermore, positive attitudes toward infection prevention significantly influence compliance with standard precautions⁶.

Cross-sectional studies indicate variability in knowledge, attitudes, and practices among nursing students, highlighting the need for continuous education and training programs⁷.

Therefore, this study aims to assess the knowledge, attitude, and practices regarding infection control among nursing students through an online survey.

Objectives

1. To assess the level of knowledge regarding infection control among nursing students.
2. To assess the attitude toward infection control measures.
3. To assess the practices related to infection control.
4. To determine the association between knowledge, attitude, and practices.

Hypotheses

- **H₁:** There is a significant association between knowledge and practice regarding infection control.
- **H₂:** There is a significant association between attitude and practice regarding infection control.
- **H₀:** There is no significant association between KAP variables.

Materials and Methods

Research Design: Descriptive cross-sectional study

Setting: Online survey among nursing students

Population: Nursing students

Sample Size: 200

Sampling Technique: Convenience sampling

Tool:

- Section A: Demographic variables
- Section B: Knowledge questionnaire
- Section C: Attitude scale (Likert scale)
- Section D: Practice checklist

Validity & Reliability:

Tool validated by experts; reliability tested using Cronbach's alpha ($r = 0.82$)

Data Collection Procedure:

Data collected via Google Forms after informed consent

Data Analysis:

- Descriptive statistics (frequency, percentage)
- Inferential statistics (Chi-square test)

Results

Table 1: Knowledge Level

Knowledge Level	Frequency (N=200)	Percentage
Poor	42	21%
Moderate	96	48%
Good	62	31%

Interpretation: Majority (48%) had moderate knowledge.

Table 2: Attitude Level

Attitude Level	Frequency	Percentage
Negative	26	13%
Neutral	50	25%
Positive	124	62%

Interpretation: Most students (62%) showed positive attitude.

Table 3: Practice Level

Practice Level	Frequency	Percentage
Poor	38	19%
Average	52	26%
Good	110	55%

Interpretation: Majority (55%) demonstrated good practices.

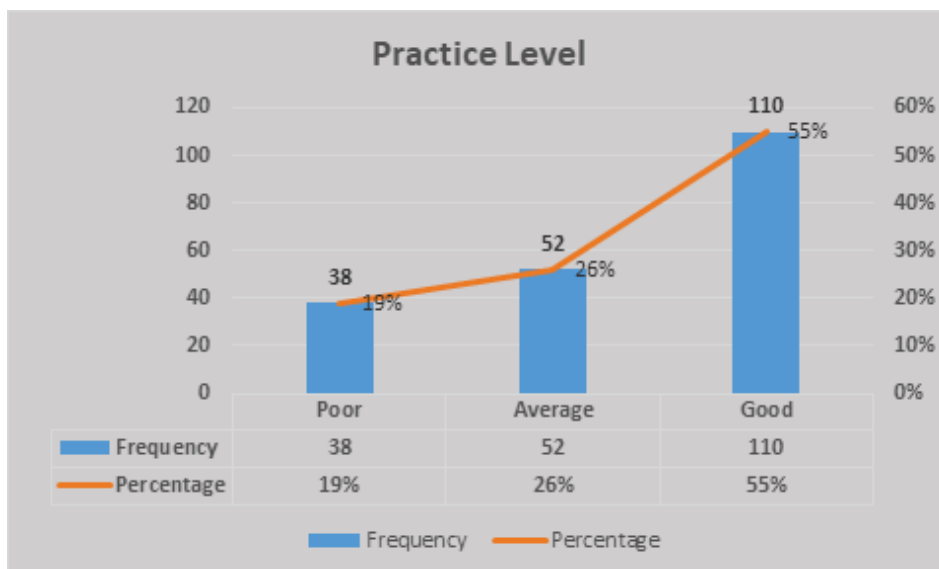


Figure 01: Practice Level

Table 4: Association Between Knowledge and Practice

Knowledge Level	Good Practice	Poor Practice	...	p-value
Good	45	17		
Moderate	50	46	6.12	<0.05*
Poor	15	27		

Interpretation: Significant association found ($p < 0.05$).

Table 05: Association Between Attitude and Practice

Attitude Level	Good Practice	Poor Practice	χ^2 value	p-value
Positive	80	44		
Neutral	20	30	5.21	<0.05*
Negative	10	16		

Interpretation: Significant association observed.

Discussion

The study findings revealed that most nursing students had moderate knowledge, consistent with previous studies indicating variability in infection control knowledge among students⁵.

Positive attitudes were observed in the majority, aligning with research suggesting that favorable attitudes enhance compliance with infection control practices⁶.

Good practice levels were noted; however, gaps still exist, which may be due to inadequate training or supervision during clinical exposure⁷.

A significant association between knowledge and practice highlights the importance of educational interventions in improving compliance with infection control guidelines.

Conclusion

The study concludes that while nursing students demonstrate positive attitudes and satisfactory practices, knowledge gaps remain. Structured training programs and regular monitoring are essential to improve infection control compliance.

Recommendations

- Conduct regular infection control training programs
- Incorporate simulation-based learning
- Strengthen clinical supervision
- Future studies with larger sample sizes

Financial support and sponsorship: Nil

Conflicts of interests: The authors declare that they have no conflict of interest

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