A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE OF FINAL YEAR BSC NURSING STUDENTS REGARDING HOSPITAL ACQUIRED INFECTIONS IN ROHILKHAND COLLEGE OF NURSING, BAREILLY, U.P

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ABSTRACT

Hospital-acquired infections (HAIs) are a major global health concern, leading to increased morbidity, mortality, prolonged hospital stay, and financial burden on healthcare systems. Nursing students are particularly vulnerable to exposure to HAIs during their clinical training, making adequate knowledge and a positive attitude toward infection prevention essential.

The present study aimed to assess the effectiveness of a structured teaching programme on knowledge and attitude regarding hospital-acquired infections among final-year B.Sc. Nursing students. A quantitative, quasi-experimental one-group pre-test post-test design was adopted. The study was conducted at Rohilkhand College of Nursing, Bareilly, Uttar Pradesh. A total of 58 final-year B.Sc. Nursing students were selected using purposive sampling technique. Data was collected using a self-structured knowledge questionnaire and an attitude rating scale. A structured teaching programme on hospital-acquired infections was administered, and the post-test was conducted after ten days.

The findings revealed a significant improvement in post-test knowledge and attitude scores compared to pre-test scores, indicating the effectiveness of the structured teaching programme. The study concludes that structured teaching programme are effective in enhancing knowledge and attitude regarding hospital-acquired infections among nursing students and should be incorporated into nursing education curricula.

Keywords: Hospital-Acquired Infection, Nosocomial Infection, Structured Teaching Programme, Knowledge, Attitude, Nursing Students

INTRODUCTION

Hospital-acquired infections (HAIs), also known as nosocomial infections, are infections acquired during hospital care that were neither present nor incubating at the time of admission. These infections continue to pose a significant challenge to healthcare systems worldwide, particularly in developing countries. HAIs contribute to increased patient morbidity and mortality, prolonged hospital stays, antimicrobial resistance, and higher healthcare costs.

Nursing students play a crucial role in patient care and are frequently exposed to patients, invasive procedures, and contaminated hospital environments during clinical postings. Inadequate knowledge and negative attitudes toward infection prevention can increase the risk of infection transmission. Education and training are essential components in preventing and controlling HAIs. Structured teaching programmes can effectively enhance nursing students' knowledge and foster a positive attitude toward infection prevention practices. Therefore, the present study was undertaken to evaluate the effectiveness of a structured teaching programme on knowledge and attitude regarding hospital-acquired infections among final-year B.Sc. Nursing students.

STATEMENT OF PROBLEM

A study to assess the effectiveness of structured teaching programme on knowledge and attitude of final year BSc. Nursing students regarding hospital acquired infection in Rohilkhand College of nursing, Bareilly, U.P.

OBJECTIVES OF THE STUDY

➢ To assess the pre-existing level of knowledge regarding hospital acquired infection among B.Sc. Nursing final year student.
➢ To assess the level of attitude regarding hospital acquired infection among B.Sc. Nursing final year students.
➢ To assess the effectiveness of the planned teaching program regarding nosocomial infections
➢ To determine the association between pre-test knowledge scores with their selected demographic variables.
➢ To determine the association between pre-test attitude scores with their selected demographic variables.

OPERATIONAL DEFINITIONS

ASSESS: In this study it refers to estimate the level of Knowledge on hospital acquired infections by Semi structured questionnaire

EFFECTIVENESS: in this study it refers to the extent to which the programme will have influence to increase the knowledge and attitude regarding hospital acquired infection among students.

KNOWLEDGE In this study it refers to the existing and gained information regarding hospital acquired infections among B.Sc. Nursing final year students at selected college of nursing, Bareilly.

HOSPITAL ACQUIRED INFECTIONS: In this study it refers to the hospital acquired infection is defined as infection developing in patients after admission to the hospital, which was neither present nor in the incubation period at the time of hospitalization

B.SC NURSING STUDENTS: It refers to students who are studying final Year Nursing degree course, Bareilly.

ATTITUDE: it is a way in which a person view and evaluate something or someone.

HYPOTHESIS

H1: There will be a significant difference between pre-test and Post-test knowledge regarding hospital acquired infections among B.Sc. Nursing Final year student.

H2: there will be a significant difference between pre-test and post-test attitude regarding hospital acquired infections among final year BSc nursing students.

H3: There will be a significant association between the Pre-test knowledge score with their selected demographic variable.

H4: There will be a significant association between the Pre-test attitude score with their selected demographical variable

RESEARCH METHODOLOGY

❖ Research Design

A quantitative, quasi-experimental one-group pre-test post-test research design was adopted.

❖ Setting of the Study
The study was conducted at Rohilkhand College of Nursing, Bareilly, Uttar Pradesh.
❖ Population

The population of the study comprised final-year B.Sc. Nursing students.

❖ Sample and Sampling Technique

A total of 58 final-year B.Sc. Nursing students were selected using purposive sampling technique.

❖ Tool for Data Collection

The tools used for data collection included:

❖ Demographic Performa

Self-structured knowledge questionnaire

Attitude rating scale regarding hospital-acquired infections

❖ Intervention

A structured teaching programme on hospital-acquired infections was administered. The content included definition, causes, risk factors, types, modes of transmission, prevention, and control measures of HAIs.

❖ Data Collection Procedure

Pre-test data were collected using the knowledge questionnaire and attitude scale. Following this, the structured teaching programme was administered. The post-test was conducted after ten days using the same tools.

❖ Ethical Consideration

Ethical approval was obtained from the institutional ethical committee. Written informed consent was obtained from all participants, and confidentiality was maintained.

Data Analysis and Interpretation

Table 1: Frequency and percentage distribution of demographic characteristics of final year BSc. Nursing students i.e. age in years, gender, religion, residential area, previous exposure of educational training concerning Hospital Acquired Infection, previous exposure to active HAI cases, source of information of final year B.Sc. Nursing Students. (N=58)

DEMOGRAPHIC VARIABLE		f	%
AGE IN YEARS	20-21 years	37	63.8%
	22-23 years	16	27.6%
	24 years and above	5	8.6%
GENDER	Male	21	36.2%
	Female	37	63.8%
	Others	0	0%
RELIGION	Hindu	47	81.0%
	Muslim	3	5.2%
	Christian	5	8.6%
	Others	3	5.2%
RESIDENTIAL AREA	Urban	34	58.6%
	Rural	24	41.4%
PREVIOUS EXPOSURE OF EDUCATIONAL PROGRAMME CONCERNING HOSPITAL ACQUIRED INFECTION	Yes	48	82.8%
	No	10	17.2%
PREVIOUS EXPOSURE TO ACTIVE HAI CASES	Yes	19	32.8%
	No	39	67.2%
SOURCE OF INFORMATION	Teachers/ Lectures	26	44.8%
	Clinical Experience	21	36.2%
	Internet/ Online Sources	4	6.9%
	No Prior Knowledge	7	12.1%

Table 2: Frequency & percentage distribution of pre-test and post-test knowledge Score regarding Hospital Acquired Infection. (N=58)

Degree of Knowledge	Scores	Pretest Score		Post-test Score	
		Frequency	Frequency	Frequency	%
Poor Knowledge	1 to 10	10	0	0	17.2%
Average Knowledge	11 to 20	45	12	12	77.6%
Good Knowledge	21 to 30	3	46	46	5.2%

Table 2 shows the distribution and frequency of percentages of pre-test level of knowledge regarding Hospital Acquired Infection among final year B.Sc. Nursing Students on the pretest. It shows that, majority of the students, 45 (77.6%) had Average knowledge, 10 (17.2%) students were having Poor Knowledge and remaining 03 (5.2%) had good knowledge, and no one was having good knowledge regarding the Hospital Acquired Infection.

The distribution of frequency and percentages of post-test level of knowledge regarding Hospital Acquired Infection among final year B.Sc. Nursing Students shows that, majority of the students i.e. 46 (79.3%) had Good knowledge and remaining 12 (20.7%) had average knowledge after the implementation, and no one was having poor knowledge regarding the Hospital Acquired Infection in the post test.

Table 3: Frequency & percentage distribution of pre-test and post-test Attitude Score regarding Hospital Acquired Infection. (N=58)

Attitude Level	Interpretation	Scores	Pretest Score		Post-test Score	
			Frequency	%	Frequency	%
Poor Attitude	Negative Attitude	15-37	0	0%	0	0%
Moderate Attitude	Neutral Attitude	38-56	18	31.0%	12	20.7%
Favorable Attitude	Positive Attitude	57-75	40	69.0%	46	79.3%

Table 3 shows the distribution and frequency of percentages of attitude levels regarding Hospital Acquired Infection among final year B.Sc. Nursing Students on the pretest shows that, majority of the students, 40 (69.0%) had favorable positive attitude and remaining 918(31.0%) had moderate neural attitude towards the Hospital Acquire Infection, and no one was having poor(negative) Attitude regarding the Hospital Acquired Infection.

The distribution of frequency & percentages of attitude levels regarding Hospital Acquired Infection among final year B.Sc. Nursing Students on the post-test shows that, majority of the students, 46 (79.3%) had favorable positive attitude and remaining 12 (20.7%) had moderate neutral attitude towards the Hospital Acquire Infection, and no one was having poor(negative) Attitude regarding the Hospital Acquired Infection.

Table 4: Comparison of mean and SD of pre and post-test knowledge score of final year B.Sc. Nursing Students regarding Hospital Acquired Infection. (N=58)

Level of Knowledge	Mean	SD	Df	Paired 't' value	p-value
Pretest Knowledge	12.91	3.31	57	23.520	0.001*
Post-test Knowledge	23.03	4.08			

Paired t- test
t_{57}= -23.932 at $p<0.05$ level of significance, *Significant

Table 4 compares the final year B.Sc. Nursing Students knowledge scores to evaluate the effectiveness of the structured teaching programme on the knowledge of final year B.Sc Nursing students regarding hospital-acquired infections from the pre- and post-tests scores, and it indicates the mean knowledge score and SD were 12.91 ± 3.31 in the pretest and 23.03 ± 24.08 5in the post-test. The mean difference in scores was 10.12, indicating a significant improvement in knowledge.

To compare the knowledge scores between the pretest and post-test, paired "t" test was used. The paired t-test yielded a value of $t(57) = 23.520$, with a p-value < 0.005, which is statistically significant. This suggests that there is increase in knowledge after the intervention.

Table 5: Comparison of mean and SD of pre and post-test attitude score of final year B.Sc. Nursing Students regarding Hospital Acquired Infection. (N=58)

Level of Knowledge	Mean	SD	Df	Paired 't' value	p-value
Pretest Attitude	60.86	7.66	57	-1.970	0.054
Post-test Attitude	61.90	6.97			

Paired t- test
$t_{57} = -1.970$ at $p=0.054 > 0.005$ Not Significant

Table 5 compares the final year B.Sc. Nursing Students attitude scores to evaluate the effectiveness of the structured teaching program on the attitude level final year B.Sc. Nursing students regarding hospital-acquired infections from the pre- and post-tests scores, and it indicates the mean knowledge score and SD were 60.86 ± 7.66 in the pretest and 61.90 ± 6.97 in the post-test. The mean difference in scores was -1.03, indicating slight improvement in students Attitude.

However, the obtained t-value was -1.970 with 57 degrees of freedom and the p-value was 0.054, which is greater than the conventional alpha level of 0.05. This indicates that the difference in attitude scores between the pre-test and post-test was not statistically significant.

Therefore, although there was a slight increase in the post-test attitude scores, the change cannot be confidently attributed to the structured educational programme. This implies that the intervention had no significant effect on improving students' attitude towards hospital-acquired infections.

Table 6: Association of demographic variables with pre-test knowledge scores among final year B.Sc Nursing Students regarding Hospital Acquired Infection

S. No.	Socio-Demographic Variable	Total Sample (N)	Poor		Average		Good		Chi square table value, df	Chi square (p value)
			f	%	F	%	F	%		
1.	**AGE IN YEARS**									
I	20-21 years	37	8	21.6%	27	73.0%	2	5.4%	9.49 (df= 4)	5.351 (0.253) (NS)
II.	22-24 years	16	1	6.3%	15	93.8%	0	0%		
III.	24 years and above	5	1	20%	3	60.0%	1	20%		
2.	**GENDER**									
I	Male	21	3	14.3%	17	81.0%	1	4.8%	5.99 (df= 2)	0.226 (0.893) (NS)
II.	Female	37	7	18.9%	28	75.7%	2	5.4%		
III.	Others	0	0	0	0	0	0	0		
3.	**RELIGION**									
I	Hindu	47	8	17.0%	37	78.7%	2	4.3%	12.59 (df=6)	6.185 (0.403) (NS)
II.	Muslim	3	0	0%	2	66.7%	1	33.3%		
III.	Christian	5	1	20.0%	4	80.0%	0	0%		
IV.	Others	3	1	33.3%	2	66.7%	0	0%		
4.	**RESIDENTIAL AREA**									
I	Urban	34	6	17.6%	27	79.4%	1	2.9%	5.99 (df= 2)	0.834 (0.659) (NS)
II.	Rural	24	4	16.7%	18	75.0%	2	8.3%		
5.	**PREVIOUS EXPOSURE OF EDUCATIONAL PROGRAMME CONCERNING HOSPITAL ACQUIRED INFECTION**									
I	Yes	48	8	16.7%	38	79.2%	2	4.2%	5.99 (df= 2)	0.687 (0.709) (NS)
II.	No	10	2	20.0%	7	70.0%	1	10.0%		
6.	**PREVIOUS EXPOSURE TO ACTIVE HAI CASES**									
I	Yes	19	5	26.3%	11	57.9%	3	15.8%	5.99 (df= 2)	8.920 (0.012)*
II.	No	39	5	12.8%	34	87.2%	0	0%		
7.	**SOURCE OF INFORMATION**									
I	Teachers/ Lectures	26	3	11.5%	20	76.9%	3	11.5%	12.59 (df= 6)	7.232 (0.300) (NS)
II.	Clinical Experience	21	4	19.0%	17	81.0%	0	0%		
III.	Internet/ Online Sources	4	2	50%	2	50%	0	0%		
IV.	No Prior Knowledge	7	1	14.3%	6	85.7%	0	0%		

* - Significant at p<0.05 level

NS- Not Significant

Table 6 presents the results of Chi Square test, which aimed to determine the association of socio-demographic characteristics participants with pre-test knowledge score. The analysis revealed a statistically significant association with previous exposure to active HAI cases at the p <0.05 level. However no significant association was observed with the other socio-demographic variables.

Therefore, the Hypothesis stating that there is significant association between the levels of knowledge regarding Hospital Acquired Infection with the selected demographic variables among final year B.Sc Nursing Students was accepted for previous exposure to active HAI case. However it is not accepted for the rest of the demographic variable

RESULTS

The pre-test findings revealed that the majority of students had average knowledge and a moderate attitude regarding hospital-acquired infections. After the implementation of the structured teaching programme, post-test results showed a significant improvement in both knowledge and attitude scores. Most students demonstrated good knowledge and a positive attitude toward prevention of hospital-acquired infections. Statistical analysis confirmed that the structured teaching programme was effective. No significant association was found between pre-test knowledge and attitude scores and selected demographic variables.

DISCUSSION

The findings of the present study indicate that structured teaching programme significantly improve knowledge and attitude regarding hospital-acquired infections among nursing students. Similar findings have been reported in previous studies, which highlight the importance of educational interventions in infection prevention and control. Improved knowledge and positive attitude among nursing students are essential for reducing the incidence of hospital-acquired infections and promoting patient safety.

CONCLUSION

The study concludes that the structured teaching programme was effective in enhancing knowledge and attitude regarding hospital-acquired infections among final-year B.Sc. Nursing students. Regular educational and training programmes should be integrated into nursing curricula to strengthen infection control practices and improve healthcare outcomes.

RECOMMENDATIONS

Structured teaching programmes on hospital-acquired infections should be included in nursing education.

Continuous reinforcement of infection control practices during clinical postings is essential.

Similar studies may be conducted with larger samples and in different settings.

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