

A Study to Assess the Effectiveness of Information Booklet On Knowledge Regarding Nosocomial Infection Among Nursing Officers Working in Selected Hospitals, Kota (Raj.)

Manish Kumar Swami¹, Sunita Thakur², Raghunandan Nagar³

¹M.Sc. Nursing, Government College of Nursing, Kota

²Ph.D. Nursing Professor, Government College of Nursing, Kota

³Associate Professor, Government College of Nursing, Kota

Corresponding Author:

Mr. Manish Kumar Swami, Nursing Tutor, Star Nursing College, Jaipur

Email: - manishamgha@gmail.com

Abstract:

Introduction: Nosocomial infections, or healthcare-associated infections (HAIs), are infections acquired during medical care that were not present or incubating at the time of admission. These infections, which are a leading cause of avoidable harm, can increase hospital stays, mortality, and healthcare costs. Common types include catheter-associated urinary tract infections, central line-associated bloodstream infections, surgical site infections, and ventilator-associated pneumonia, often caused by bacteria, viruses, or fungi, including antibiotic-resistant strains.

Materials and Methods: The study used a non-experimental descriptive research design and a quantitative methodology. It was conducted at Rampura Satellite Hospital and M.B.S. Hospital, Kota (Raj.), among 60 nursing officers selected through non-probability convenient sampling. A systematic instrument comprising a sociodemographic profile and a 30-item knowledge questionnaire covering nosocomial infection causes, modalities, and prevention was used to gather data.

Results: Nursing officers' pre-test knowledge of nosocomial diseases ranged from low to moderate. The information packet considerably raised post-test knowledge scores, demonstrating the educational intervention's efficacy.

Conclusions: The information booklet significantly improved nursing officers' knowledge regarding nosocomial infections, highlighting the importance of educational interventions.

Keywords: Effectiveness; Information Booklet; Knowledge; Nosocomial Infection

SDES- International Journal of Interdisciplinary Research is a journal of Open access. In this journal, we allow all types of articles to be distributed freely and accessible under the terms of the creative common attribution- non-commercial share. This allows the authors, readers and all scholars and general community to understand, use and to develop non-commercially work, as long as appropriate credit is given and the newly developed work are licensed with similar terms.

How to cite this article: Swami MN, Thakur S, Nagar R. A Study to Assess the Effectiveness of Information Booklet On Knowledge Regarding Nosocomial Infection Among Nursing Officers Working in Selected Hospitals, Kota (Raj.). SDIS-IJIR; 2026; 7-4: 1563-1567

Submitted: 15-August-2026; **Accepted:** 30-August-2026; **Published:** 31-August-2026

INTRODUCTION

Infectious disease is serious problem to world health. One of important reason for high death rate in developing countries is infectious disease. The term communicable disease also is used in place of infectious disease, which means that disease can spread from one person to another person¹.

The word nosocomial comes from the Greek word 'Nosokomeion' meaning hospital. [NOSOS disease, Komeo to take care of] Nosocomial infections are infections that results from treatment in a healthcare service unit. Infections are considered nosocomial if they first appear 48 hours or more, after hospital admission or within 30 days after discharge. Nosocomial infection results from delivery of health service in a health care facility².

The number of health care employees having direct contact with a client, the type and number of invasive procedures, the therapy received & the length of hospitalization influences the risk of infection. Major sites for nosocomial infection include surgical or traumatic wound, urinary, and respiratory tracts & the blood stream³.

Infections acquired during a hospital stay are called nosocomial infections. Patients with only brief hospital stay may find that they have a nosocomial infection after leaving hospital⁴.

Nosocomial infection may arise from inhalation of droplets in the air or spread by direct hand contact from hospital staffs or visitors. Most nosocomial infections afflict patients due to age, serious disease, certain medication or recent surgery⁵.

Blood stream infections and pneumonias have increased in frequency from 1975 to 1996, however tracking nosocomial infections by site has become difficult in the last few years because of shorter inpatient stay, new approximately is 5 days which is usually shorter than the 5 to 7 days of incubation period for staphylococcus aureus responsible for surgical wound infection⁶.

Nosocomial infections are the main adverse events during health care delivery. Hand hygiene is the fundamental strategy for the prevention of nosocomial infections. Microbial characteristics of nosocomial infections in the Asia-Pacific region have not been investigated fully. Correlation between the use of hand hygiene products and the incidence of nosocomial infections is still unknown. This study investigates the microbial characteristics of nosocomial infections in the Asia-Pacific region and analyses the association between the utilization of hand hygiene products and the incidence of nosocomial infections. A total of 78,344 patients were recruited from a major tertiary hospital in China. Microbial characteristics of major types of nosocomial infections were described⁷.

A prospective, randomized, double-blind, placebo-controlled clinical trial conducted at the One Lieve Vrouw Gasthuis, Amsterdam, the Netherlands, between August 1, 2003, and September 1, 2005. Of 991 patients older than 18 years undergoing elective cardiothoracic surgery during the study interval, 954 were eligible for analysis. Oropharyngeal rinse and nasal ointment containing either chlorhexidine gluconate or placebo. Incidence of nosocomial infection, in addition to the rate of Staphylococcus aureus nasal carriage and duration of hospital stay. The incidence of nosocomial infection in the chlorhexidine gluconate group and placebo group was 19.8% and 26.2%, respectively (absolute risk reduction [ARR], 6.4%; 95% confidence interval [CI], 1.1%-11.7%; $P = .002$)⁸.

The most frequent and relevant microorganisms were reported. 48 377 results from cultures of nosocomial infections were studied. Of these 13 207 (27.3%) were from 25 high specialty medical units and 35 170 (72.6%) from 197 second level medical units. The most frequently isolated microorganism was Escherichia coli with 8192 results (16.9%), followed by the group of Coagulase-negative Staphylococci with 6771 cultures (14%) and Pseudomonas aeruginosa with 5275 results (19.9%). Slight differences between levels of care and specialized hospitals were observed⁹.

Objectives:

1. To assess the pre-test knowledge regarding Nosocomial Infection among Nursing Officers working in selected Hospitals, Kota (Raj.).
2. To prepare and distribute information booklet on knowledge regarding Nosocomial Infection among Nursing Officers working in selected Hospitals, Kota (Raj.).
3. To assess the post-test knowledge regarding Nosocomial Infection among Nursing Officers working in selected Hospitals, Kota (Raj.).
4. To evaluate the effectiveness of information booklet on knowledge regarding Nosocomial Infection among Nursing Officers working in selected Hospitals, Kota (Raj.).
5. To find the association between pre-test knowledge score and selected socio-demographic variables.

Materials and Methods: A methodical approach to problem solving is research methodology. The science of research technique examines how research should be conducted. In essence, research technique refers to the processes that researchers use to describe, explain, and forecast events. It can also be described as the study of how knowledge is acquired.

Research Approach: Quantitative research approach was considered to be the most appropriate and adopted.

Research Design: A non-experimental descriptive research design has been used to attain the objectives of the study

Setting of The Study: Based on the feasibility and availability of samples the investigator selected Rampura Satellite Hospital and M.B.S. Hospital Kota, (Raj.).

Population of The Study: The population for the study comprises of all Nursing Officers who are registered and working in selected Hospitals Kota, (Raj.).

Sample & Sample Size: Sample size of the present study consists of 60 Nursing Officers who are working in M.B.S. Hospital Kota, (Raj.).

Sampling Technique: Non-probability convenient sampling technique used to select samples.

Description of Tools: The tool comprised of two parts

Part I: - Consists of 7 items which includes age, gender, religion, professional qualification, years of experience and area of posting and exposure to any in service educational program regarding tracheostomy care.

Part II: - Structured knowledge questionnaire consists of 30 items. Items were prepared and classified into following 3 sections

Section A- Questions Related to Introduction and Causes of Nosocomial Infection.

Section B- Question Related to Mode of Infection and Clinical Manifestation.

Section C – Questions Related to Prevention and Management.

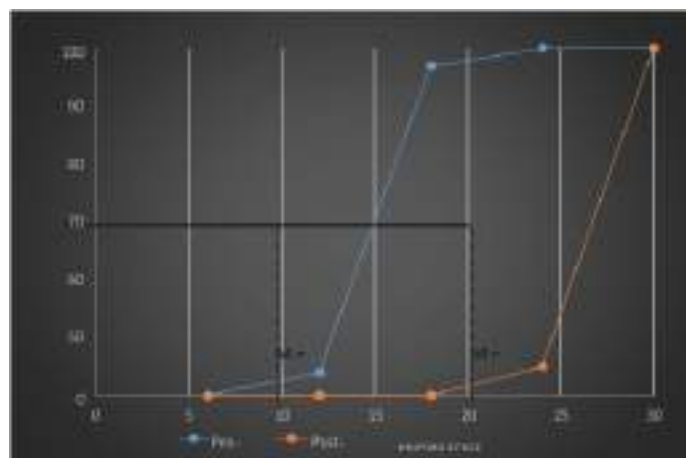
Results: The data collected were organized and presented under the following headings:

Table 1: Frequency and percentage distribution of samples characteristics

S.No.	Socio-demographic variables	Categories	Frequency	Percentage %
1.	Age (yrs)	21-30	02	3.33
		31-40	18	30.00
		41-50	25	41.66
		51-60	15	25.00
2.	Gender	Male	30	50.00
		Female	30	50.00
3.	Professional Qualification	GNM	27	45.00
		B.Sc. Nursing	18	30.00
		Post Basic B.Sc. Nursing	12	20.00
		M.Sc. Nursing	03	5.00
4.	Work Experience In Years	0-5 years	4	6.66
		6-10 years	18	30.00
		11-15 years	28	46.66
		Above 15 years	10	16.66
5.	Previous knowledge regarding Nosocomial infection	Yes	24	40.00
		No	36	60.00
6.	Source of Information	Books	04	6.66
		Mass Media	04	6.66
		Health Personnel	14	23.33
		Magazine/ Literature	02	3.33

Table 2: Frequency, percentage and cumulative frequency distribution of pre-test and post-test knowledge scores

Knowledge scores	PRE-TEST			POST-TEST		
	Frequency	%	Cumulative frequency %	Frequency	%	Cumulative frequency %
1-6	00	00	00.00	-	-	-
7-12	04	06.66	06.66	-	-	-
13-18	53	88.33	94.99	-	-	-
19-24	03	05.00	100.00	05	8.33	8.33



25-30	00	00	100.00	55	91.66	100
Total	60	100.00		60	100.0	

Fig. 1: OGIVE Representing Pre and Post-Test Knowledge Score

Table 3: Grading of pre-test and post-test knowledge scores among Nursing officers regarding Nosocomial infection

Grade	Range	Pre-test		Post-test	
		Frequency	%	Frequency	%
Adequate	24-30	00	00.00	55	91.66
Moderately adequate	16-23	19	31.66	05	08.33
Inadequate	1-15	41	68.33	0	00.00

TABLE 4: RANGE, MEAN, MEDIAN AND STANDARD DEVIATION OF PRE-TEST AND POST-TEST KNOWLEDGE SCORES

Knowledge scores	Range	Mean	Median	SD
PRE-TEST	0-21	12.76	12	1.59
POST-TEST	19-30	24.91	22	1.12

Maximum score = 30

Table :5 Area Wise Pre and Post-Test Knowledge Scores Among Nursing Officers Regarding Nosocomial Infection

Area	Max. Score	Mean % knowledge score		Mean % actual gain
		Pre-test	Post-test	
Question related to general introduction and causes	05	31.51	84.02	52.51
Question related to modes of infection and clinical manifestation	11	24.72	75.27	50.55
Question related to prevention and management	14	48.54	88.00	39.46

The results of the study show that the majority of nursing officers had insufficient pre-test knowledge about nosocomial infections; however, a significant improvement in post-test scores, mean values, and grading levels indicates that the information booklet was very successful in improving knowledge in all subject areas.

Discussion

Despite having sufficient work experience, the majority of nursing officers had insufficient to moderate understanding about nosocomial infections, according to the study's findings. The usefulness of the information booklet was demonstrated by the significantly higher post-test results compared to the pre-test scores. After the session, all participants showed signs of increased knowledge. Knowledge scores were found to be significantly correlated with factors like age, education, work experience, and prior knowledge, but not with gender. Overall, the study demonstrates that planned educational interventions can increase nursing officers' understanding of nosocomial diseases.

Conclusion: The study concluded that nursing officers working in selected hospitals of Kota had inadequate knowledge regarding nosocomial infections before the intervention. The information booklet proved to be highly effective, as evidenced by a significant improvement in post-test knowledge scores among all participants. Knowledge gain was observed in all content areas, particularly in prevention and management of nosocomial infections. Significant associations were found between knowledge scores and selected socio-demographic variables such as age, qualification, work experience, and previous knowledge, while gender showed no association. Hence, information booklets and similar educational strategies are effective tools for improving nurses' knowledge and strengthening infection control practices.

Recommendations: On the ground of the findings of the study following recommendations has been made:

- A similar study may be replicated on a larger sample; there by findings can be generalized for a larger population.
- A comparative study can be carried out among nursing officers of different health settings.
- Individual case study can be done regarding Nosocomial infection.

Compliance with Ethical Standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References:

1. Swarnakar's. Community Health Nursing. 3rd Edition. Indoor: N.R. Brothers Publisher's Nursing; 2016:468
2. K.K. Gulani. Community Health Nursing. 2nd edition. Delhi: Kumar Publication House; 2013: 395
3. A H Suryakantha. Community medicine with recent advances. 4th edition. New Delhi. Jaypee Brother's medical publisher P (Ltd)
4. BT Basavanthapa. Community Health Nursing. 2nd Edition. New Delhi: Jaypee Brother Medical Publisher (P) Ltd: 2008: 547
5. BT Basavanthappa, a text book of community health nursing, 11th edition, published by Lippincott's publications, 2007, 610-615
6. Shyamala D Manivanna, a text book of community health nursing, 5th edition, Elsevier publications, 552-561.
7. Keshav Swarnkar, a text book of critical care for nurses, 1st edition, paras' medical publications, 254-259.
8. <https://www.uspharmacist.com/article/surgical-procedures-for-obstructive-sleep-apnea> P. Hariprasath, text book of cardiovascular & thoracic nursing, 15 editions, Jaypee brothers' medical publishers (P) Ltd., 424-426

