Research Article

KNOWLEDGE REGARDING INFECTION CONTROL STRATEGIES NURSING STUDENTS IN CLINICAL AREAS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Health care-associated infections, or infections acquired in health-care settings are the most frequent adverse event in health-care delivery worldwide. Of every 100 hospitalized patients at any given time, 7 in developed and 10 in developing countries will acquire at least one health care-associated infection. The present study was done to assess knowledge and practices of nursing students regarding infection control strategies in clinical areas. **Methodology:** The present study descriptive cross sectional research design was used to achieve the stated objective. The study population was nursing students of Baba Farid University of health sciences, Faridkot. Samples for present study were Nursing students of University college of Nursing, Faridkot. Sample size was 100 (53 students of B.sc 2nd year & 47 students of B.sc 3rd year). Non probability, convenient sampling technique was used for the selection of 100 nursing students. Results: The majority of participants (83%) were having excellent knowledge followed by 16% students were having good knowledge. Only 1 student was having average knowledge. The chi-square value explored that no demographic variable was statistically significance associated with levels of knowledge. Conclusion: The present study highlighted that student nurses have sound knowledge towards infection control that will be a great help in infection control and prevention of infection within healthcare settings.

KEYWORDS: Knowledge, Infection control strategies, Nursing students, Clinical areas.

INTRODUCTION

Infection prevention and control is an integral component of nursing care delivery in any setting to reduce risks for morbidity and mortality in patients and care givers at all levels. More comprehensive infection risk reduction strategies are needed for the management of indwelling devices such as central venous catheters and equipment for assisted ventilation and for surgical procedures that involve permanently implanted foreign bodies such as total joints. Nursing share responsibility with other nursing students for infection risk reduction in patients across entire continuum of care and play vital role in reducing risks for infection through a variety of direct care activities.[1] Health care-associated infections, or "nosocomial" and "hospital" infections, affect patients in a hospital or other health-care facility, and are not present or incubating at the time of admission. They also include infections acquired by patients in the hospital or facility but appearing after discharge, and occupational infections among staff. Most countries lack surveillance systems for healthcare-associated infections. Those that do have systems often struggle with the complexity and lack of standardized criteria for diagnosing the infections. While this makes it difficult to gather reliable global information on health care-associated infections, results from studies clearly indicate that each year, hundreds of millions of patients are affected by health care associated infections around the world. Health care-associated infections only usually receive public attention when there are epidemics. Although often hidden from public attention, the very real endemic, on-going problem is one that no institution or country can claim to have solved, despite many efforts.[2] Health care-associated infections, or infections acquired in health-care settings are the most frequent adverse event in health-care delivery worldwide. Of every 100 hospitalized patients at any given time, 7 in developed and 10 in developing countries will acquire at least one health care-associated infection. While urinary tract infection is the most frequent health care-associated infection in high-income

countries, surgical site infection is the leading infection in settings with limited resources, affecting up to one-third of operated patients; this is up to nine times higher than in developed countries. In high income countries, approximately 30% of patients in intensive care units (ICU) are affected by at least one health care-associated infection. In low- and middle-income countries the frequency of ICU-acquired infection is at least 2-3-fold higher than in high-income countries; device-associated infection densities are up to 13 times higher than in the USA. Newborns are at higher risk of acquiring health care-associated infection in developing countries, with infection rates three to 20 times higher than in high-income countries.[3] The majority (60%) of infections in patients hospitalized in an intensive care unit (ICU) setting are caused by bacteria already colonizing the patient on admission (primary endogenous). A lesser amount (23%) of infections results from bacteria acquired during the ICU stay, leading to colonization before infection (secondary endogenous). A total of (17%) of infections are caused by bacteria introduced from the ICU environment that lead to infection without prior colonization (exogenous).[4] Thus, based on evidence, the researcher felt need to assess the level of knowledge and practice.

AIM OF THE STUDY
The aim of the study is intended to assess knowledge and practices of nursing students regarding infection control strategies in clinical area of GGS Medical hospital, Faridkot.

OBJECTIVES OF THE STUDY
➢ To assess the knowledge of nursing students regarding hospital infection control in clinical area.
➢ To assess the practices of nursing students regarding hospital infection control in clinical area.
➢ To find out the association of knowledge with their selected socio- demographic variables

METHODOLOGY
The present study descriptive cross sectional research design was used to achieve the stated objective. The study population was nursing students of Baba Farid university of health sciences, Faridkot. Samples for present study were Nursing students of University college of Nursing, Faridkot. Sample size was 100 (53 students of B.sc 2nd year & 47 students of B.sc 3rd year). Non probability, convenient sampling technique was used for the selection of 100 nursing students.

Criteria for selection Inclusion criteria
● Students of UCON Faridkot.
● Those who are willing for participate.
● Those who were available at the time of data collection.

Exclusion criteria
● Students less then 17years of age.
● Students studying in classes other than BSc.2nd year and BSc.3rd year.

Tool for data collection: In present study, the tool contains socio demographic profile, knowledge questionnaire to estimate awareness of nursing students toward hospital infection control. In knowledge questionnaire, maximum score was 30. The obtained scores were further divided into 3 categories, average knowledge (0-10), good knowledge (11-20) and excellent knowledge (21-30). The reliability of tool was established through test-retest method (r =0.9) which was positively reliable.

Ethical Consideration: Study approval was taken from the institutional ethical and research committee of the University College of Nursing, Faridkot (Punjab). A Written informed consent was taken from each study subject. The confidentiality was maintained throughout the study. A written permission was also taken from the principal of UCON Faridkot.

Data Collection procedure: Data was collected from those nursing students who fulfill the inclusion criteria. The purpose and objective of study were presented and discuss with study subject. The consent was taken from the study subject. They were assured that their response would be kept confidential and use only for study purpose.

RESULTS
Table No. 1: Frequency and Percentage distribution of selected Socio-Demographic variables. N=100

Variables		Frequency (f)	Percentage (%)
Gender	Male	0	0%
	Female	100	100%
	Others	0	0%
Age of respondent (in year)	17 to 20 years	62	62%
	21 to 24 years	37	37%
	More than 24 years	1	1%
Year of study	B.Sc. Nursing 2nd year	53	53%
	B.Sc. Nursing 3rd year	47	47%
Family income	Rs. 10,000 to 20,000	29	29%
	Rs. 20,001 to 30,000	36	36%

	More than 30,000	35	35%
Dietary habits	Vegetarian	52	52%
	Non-vegetarian	33	33%
	Eggetarian	15	15%
Residential area	Urban	43	43%
	Rural	57	57%

Table-1 shown that distribution of nursing students in various categories according to gender, age of respondents (in years), year of study, family income (per month), dietary habits, residential area. According to gender, majority of female students (100%) were participated but there was 0% (0) male students and others. According to age more than half (62%) students were in age group 17-21 years, less than half (37%) students were in age group of 21-24 years and only few (1%) were falls under age group of more than 24 years. In educational status, more than half (53%) students were participated from BSc. 2nd year and less than half (47%) students were participated from BSc. 3rd year. As per family income, majority of students (36%) belongs to family with income Rs.20,001-30,000. According to Dietary habits, more than half (52%) students were vegetarian and less than half (33%) students were non-vegetarian and only few 15% were eggetarian. The majority of students (43%) were belongs to urban area and more than half (57%) students were belongs to rural area.

Table 2: Levels of knowledge among the students. N=100

S. No.	Levels of knowledge	Frequency	Percentage
1.	Average	01	01%
2.	Good	16	16%
3.	Excellent	83	83%

The above table highlighted levels of knowledge among the students. The majority of participants (83%) were having excellent followed by 16% students were having good knowledge. Only 1 student was having average knowledge.

Table 3: Association of knowledge with selected Socio-demographic variables. N=100

Variables		Excellent	Good	Average	x^2-value	*p-value*
Age (In year)	17- 21years	54	7	1	1.84	0.76[NS]
	21- 24years	30	7	0		
	More than 24 years	1	0	0		
Year of study	B.Sc. (N)2nd year	44	8	1	0.94	0.6235[NS]
	B.sc 3rd year	39	8	0		
Family income (per month)	Rs.10,000 to 20,000	26	3	0	1.12	0.5684[NS]
	Rs.20,001-30,000	29	6	0		
	More than 30,000	28	7	0		
Dietary Habits	Vegetarian	42	9	1	1.129	0.8836[NS]
	Non-vegetarian	28	5	0		
	Eggetarian	13	2	0		
Residential area	Urban	37	6	0	1.0362	0.5956[NS]
	Rural	46	10	1		

NS- Non- Significant (p value >0.05)

Table-3 highlighted the association between levels of knowledge and selected demographic variables. The chi-square value explored that no demographic variable was statistically significance associated with levels of knowledge.

Table 4: Mean and standard deviation of knowledge score regarding hospital infection control among nursing students. N = 100.

Knowledge score	Mean	SD	Median	Maximum	Minimum	Range
	22.75	2.7	23	30	9	19

Table-4 stated that mean knowledge score was 22.75 and Standard deviation was 2.7, Maximum score was 28 and Minimum score was 9.

DISCUSSION
The present study was conducted to assess the knowledge among nursing students towards infection control strategies. The present study revealed that 83%

nursing students had excellent knowledge, while 16% of nursing students had good knowledge and only 1% of nursing students had average knowledge. In support of the study, Stephane L. Bouchoucha et al (2021) highlighted that Nurses who performed duty in critical unit have 72% sufficient knowledge and 28% have insufficient knowledge about infection control. Another study conducted by Neeraj Kumar Bansal, Reeja Raju (2020) also revealed that majority of the participants have good knowledge towards infection control. Another study conducted by Ishwari Sharma et al (2019) explored 74% of the participants had good knowledge regarding HAIs. effective hand hygiene techniques. In contrast to present study results another study conducted by Padmaja, A et al (2019), study concluded that 38% had adequate knowledge regarding infection control in PICU, majority of 42% had moderately positive attitude towards infection prevention and 30% had adequate knowledge on practices to prevent infection in PICU. The present study also highlighted that mean knowledge score was 22.75 and Standard deviation was 2.7, Maximum score was 28 and Minimum score was 9. The chi-square value explored that no demographic variable was statistically significance associated with levels of knowledge.

CONCLUSION
On the basis of findings of the study, it is concluded that majority of subjects were found to have excellent knowledge and only one subject had good knowledge regarding Hospital infection control. The sound knowledge towards infection control will be helpful in implementation of quality patient care. It will also enhance the skills of nursing students.

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