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A Study to Assess the Knowledge Regarding CDC Guidelines on Prevention of Infection in Intensive Care Units among Staff Nurses Working in Selected Hospitals Bangalore

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Abstract: ***Critical care nurses are the health care professionals who have the obligation to protect critically ill patients against infection especially those who are immune compromised, in order to enhance their recovery, prevent deterioration in their health, and achieve high quality nursing care.The risk of acquiring HCAI is especially significant in the ICUs. A huge number of immune compromised patients are admitted to ICUs. Approximately 30% of ICU patients are affected by one or more episodes of HCAI. Critical care patients are faced with increased risks of nosocomial infections, and so life-threatening conditions. Therefore, nurses have a professional and moral obligation to protect the health of their patients and share the responsibility to sustain and protect the natural environment. Method: The research approach adopted for this study was quantitative research approach.Research design used for this study was Simple descriptive design. Non-probability Purposive sampling techniques was adopted to select 30 samples for the study.In the present study structured knowledge questionnaire was used to assess the knowledge of staff nurses regarding CDC guidelines on prevention of infection in intensive care units. Results: The study revealed that the Mean knowledge score of 9 with Sd 1.8, 60%of the staff nurses had adequate knowledge and, most of staff nurses had previous exposure (66.6%) regarding CDC guidelines on prevention of infection in critical care areas. Result of the study pointed out that there is no significant association with selected socio demographic variables.***

Keywords: Critical care, nosocomial infection, patients, CDC guidelines

1. Introduction

Nosocomial infection (NI), or hospital-acquired infection or Health-care-associated infection (HCAI) refers to infection that is acquired during the process of care and not manifested at the time of admission to a hospital or other health-care facility. About 5% –10% of patients admitted to acute care hospitals in developed countries acquire HCAI at any given time, and the risk of acquiring infection is 2 – 20 times higher in developing countries. It constitutes a global health problem, and is considered as one of the leading causes of increased morbidity and mortality; longer duration of hospital / ICU stay; increased severity of the underlying illness; increased utilization of devices for monitoring and treatment; increased cost of treatment in both developed and resource-poor countries; and impairment of the quality of patient's and family's life. HCAI accounts for higher rates of morbidity and mortality among critically ill patients, due to severity of illness and thus increased susceptibility to acquire more micro-organism related to their presence in the intensive care unit (ICU). Even with advances in the health care system, the threat of hospital-acquired infections (HAIs) remains.

In the light of the high rate of HAI various agencies like Centre for disease control and prevention (CDC) and WHO have adopted infection reduction programs in both developed and developing countries. In 2007 CDC formulated guidelines for isolation precautions which were the first of its type for health care settings. In 2011 CDC revised the guide as the minimum expectations for safe care.

Critical care settings present unique challenges for infection prevention.Various advanced procedures performed in critical care areas like invasive centrallines, percutaneous tracheostomies and endoscopy procedures poses a high risk for infection. The potential for transmission of communicable diseases, antibiotic resistant bacteria and threat for bio disaster infections also exist in critical care units. There have been outbreaks of health care associated infections (HAI) due to inadequate sterilization and disinfection of equipment's, poor hand hygiene, inappropriate use of barrier and work restriction for ill health care workers.

HAI have been the biggest cause of avoidable harm and death in high income countries. The situation in developing countries is even worse where HAI is at least twice as high.Hospitals in India have a high burden of antibiotic resistant infections in intensive care unit and general wards.The key to prevent HAI may lie in the use of aseptic practices, training personnel and ensuring that their skills and knowledge of infection control practiced in day to day activities.

2. Statement of the problem

A study to assess the knowledge regarding CDC guidelines for prevention of infection in Intensive Care Units among staff nurses working in selected hospitals Bangalore, in view to develop a pamphlet.

3. Objectives of the Study

- To assess the level of knowledge among staff nurses regarding CDC guidelines for prevention of infection in Intensive Care Units.
- To associate the level of knowledge regarding CDC guidelines for prevention of infection in Intensive Care Units with selected demographic variables.
- To develop a pamphlet regarding CDC guidelines

Hypothesis

The hypothesis was tested at 0.05 level of significance.
H1- There will be significant association between knowledge of staff nurses regarding CDC guidelines on prevention of infection in ICU'S with selected socio-demographic variable.

4. Materials and Methods

Quantitative descriptive approach, non-experimental descriptive design was selected for this study and conducted at Koshy'shospital, Bangalore. A pilot study was conducted prior to the main study with 10 samples and feasibility and practicability of tools and methods was identified. The main study was conducted among 30 ICU staff nurses. Samples were selected by using non- probability purposive sampling. The objective of the study was explained, and Informed consent was obtained from the participant. Demographic data was collected by using structured knowledge questionnaire.

Data collection and Analysis

The study was approved by the Institutional Human Ethical Committee prior to the conduction of study. The aim of the study was explained to the study participants and informed consent was obtained. Descriptive statistics method such as frequencies and percentage were used to assess the demographic variables.The association between the staff nurse's knowledge and selected socio demographic variables was evaluated by inferential statistical method- Chi square.

5. Results and Discussion

The majority of staff nurses 15(50%) were in the age group of(20-25) yearsand whereas 3(10%) belongs to the age group of >35. Regarding educational qualification most of the staff nurses were 16(53.3%) holding BSC degree and none of the staff nurses were 0(0%) having MSC degree. Among the 30 subjects, majority of the staff nurse were 10(33.3%) having (1-5) years of experience and 3(10%) having >10 years of experience.Only 13.3% had additional professional qualification.Most of staff nurses had previous exposure (66.6%) regarding CDC guidelines on prevention of infection in critical care areas. The mean knowledge score was 9 with Sd 1.8. Result of the study pointed out that there is no significant association with selected socio demographic variables.

Table 1: Mean knowledge score, range and standard deviation regarding CDC guidelines on prevention of infection in critical care areas among staff nurses, N=30

Variable	Mean	Standard deviation	Range
Knowledge	9	1.8	6

Table 2: Association of knowledge of regarding CDC guidelines on prevention of infection in critical care areas among staff nurses with selected demographic variables

Demographic Variables	Sample	Adequate Knowledge		Inadequate knowledge		$\chi 2$ value and df	$\chi 2$ table value
Age		**f**	**%**	**f**	**%**		
20-25 years	15	6	20	9	30	6.42 df=3	7.82
26-30 years	5	3	10	2	6.6		
31-35 years	7	6	20	1	3.33		
36-40 years	3	3	10	0	0	**NS**	
Professional Qualification		**f**	**%**	**f**	**%**		
GNM	10	6	20	04	13.3	2.552 df=2	5.99
BSc(N)	16	11	36.6	5	16.6		
Pc Bsc(N)	4	1	3.3	3	10	**NS**	
Total Years Of Experience		**f**	**%**	**f**	**%**		
< 1 Year	9	6	20	3	10	6.6 df=3	7.82
1-5 Year	10	3	10	7	23.3		
6-10 Year	8	6	20	2	6	**NS**	
>10 YEAR	3	3	10	0	0		
Additional Qualification		**f**	**%**	**f**	**%**	2.354	
Yes	4	1	3.33	3	10	df=1	3.84
No	26	17	56.6	9	30	**NS**	
Previous Exposure		**f**	**%**	**f**	**%**	2.499	
Yes	20	14	46.6	6	20	df=1	3.84
No	10	4	13.3	6	20	**NS**	

NS = Not significant at P ≤ 0.05 **S = Significant at P ≥ 0.05**

6. Implications for Nursing Practice and Research

The present study will enable, nurses to apply theory into practice and create awareness about prevention of infection in critical care areas. Nurses can conduct more research studies on prevention on infection in critical care areas and identify how it act as a independent confounding risk factor for other diseases, and also publish articles in the journal explaining the importance of early detection and prevention ICU acquired infections. There is a need for extensive and intensive research in this area to provide evidence-based care to bring out the best in care of patient.

7. Conclusion

All healthcare settings, regardless of the care provided, must make infection prevention a priority and be equipped to follow standard precautions. Patient safety is of primary importance to nurses in all healthcare settings. Nurses have hands-on contact with patients and therefore play a vital role in patient safety and infection control.It's essential to insist health professionals to create awareness among professional colleagues regarding infection prevention in critical care areas.

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Author Profile

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