

A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURE TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION AMONG ICU STAFF NURSES IN SELECTED HOSPITAL JAIPUR.

Mrs. Asha Kumari

Assistant Professor cum H.O.D. [Medical Surgical Nursing]
Birla (Girls) College of Nursing, Pilani

Corresponding Author:

Mrs. Asha Kumari

Email: ashabijarnia48@gmail.com

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ABSTRACT

Introduction: Central line associated blood stream infection is a common, costly, disabling, and potentially deadly condition, often called central line associated blood stream infection, are an important cause of increased length of stay, patient with central venous access devices are at highest risk of CLABSI such as frequent manipulation of the catheter.¹

Methods & Material: Pre-experimental one group pre-test post-test design was used for this study. The main study was carried out at Jaipur, Rajasthan. The sample comprised of 80 ICU staff nurses who met the inclusion criteria from the selected hospital were chosen by convenience sampling technique. Formal written permission was obtained from the authority to conduct the study. Pre test was conducted using a structured knowledge questionnaire.

Results: The mean post-test knowledge score 24.26 (80.66%) was higher than the mean pre-test knowledge score 8.69 (28.96%).

Conclusion: The study has shown that majority of the staff nurses had inadequate knowledge and practice of ICU staff nurses with heart CLABSI; however the knowledge has significantly improved after the administration of structure teaching programme.

Keywords: Effectiveness, Structure teaching programme, knowledge and practice, central line associated blood stream infection, ICU Staff Nurses.

INTRODUCTION: A central line is a catheter placed into a large vein in the neck (internal jugular vein or external jugular vein), chest (sub clavian vein) or groin (femoral vein). It is used to administer medication or fluids, obtain blood tests (specifically the & “mixed venous oxygen saturation”), and directly obtain cardiovascular measurements such as the central venous pressure.²

Bloodstream infections are considered to be associated with a central line if the line was in use during the 48-hour period before the development of the bloodstream infection. If the time interval between the onset of infection and device use is greater than 48 hours, there should be compelling evidence that the infection is related to the central line.³

Anything that touches the catheter site and anything that goes into the catheter must be sterile the catheter may be infected if the patient has: redness, tenderness, or swelling where the catheter enters the skin Fever or chills. The catheter may be blocked if it is difficult or impossible to flush. The catheter may be coming out of the vein if the length of catheter outside the skin is getting longer.⁴

Methodology: The research methodology is a way of systematically solving a research problem. It is a science of studying how research is done scientifically.

Research Approach: In the present study an evaluative approach was used to assess the effectiveness of structure teaching programme (STP) on knowledge and practice regarding central line associated blood stream infection (CLABSI) among ICU staff nurses in selected hospitals at JAIPUR.

Research Design: The research design selected for this study was pre experimental one group pre-test - post-test design.

Sample & Sampling technique: In the present study, the samples were 80 staff nurses working at GP Shekhawati hospital, Jaipur, during the time of data collection. Convenience sampling was used to collect data from the samples.

Data Collection: Structured knowledge questionnaire was used to collect the demographic data & to assess the knowledge and practice of staff nurses.

Results: The analysis and interpretation of data of this study was carried out by using descriptive and inferential statistics based on the objectives of the study.

Objectives Of The Study

1. To assess the existing level of knowledge and practice of staff nurses regarding Central Line Associated Blood Stream Infection (CLABSI).
2. To determine the effectiveness of structure teaching programme on the knowledge and practice of ICU staff nurses regarding Central Line Associated Blood Stream Infection (CLABSI).
3. To correlate the knowledge and practice of ICU staff nurses regarding Central Line Associated Blood Stream Infection (CLABSI)
4. To associate the pre test knowledge and practice of ICU staff nurses with selected demographic variable.

PART I: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF THE STAFF NURSES

Table 1: Frequency and percentage distribution of demographic variables of staff nurses

n=80			
Sl.No	VARIABLES	FREQUENCY	PERCENTAGE
1	Age in years		
	i) 23 - 30		31.31
	ii) 31 - 40	25	41.3
	iii) 41 - 50	33	20.0
	iv) above 51	16	7.4
		6	
2	Gender		
	i) Male		65
	ii) Female	52	35
		28	
3	Professional Qualification		
	i) General nursing and Midwifery		33.8
	ii) BSc Nursing	27	33.8
	iii) post certificate BSC nursing	27	25.0
	iv) M.SC. nursing	20	7.4
		6	
4	Years of experience		
	i)< 1 year	39	48.8
	ii) 1-2 years	19	80
	iii) 2-3 years	14	17.4
	iv) more than 3 years	8	10
5	Current area of experience		
	i) Intensive care unit		41.3
	ii) cardiac ward	33	31.3
	ii) General ward	25	17.4
	iii) Any other	14	10
		8	
6	In-service education attended.		
	a) Yes	25	31.2
	b) No	55	68.8

PART II: ANALYSIS OF PRE-TEST AND POST-TEST KNOWLEDGE SCORES OF ICU STAFF NURSES REGARDING CLABSI

Table2: Assessment of Pre-test and Post-test knowledge and practice of ICU staff nurses regarding CLABSI

Assessment of the level of pre test knowledge score among staff nurses depicts that, majority 53 (66.25%) of respondents had average knowledge scores and 19 (23.75%) of them had poor knowledge scores, 8 (10.00%) and none of the respondents possessed very poor, good and very good knowledge score category. This might be due to lack of updating their knowledge. The finding of the study has revealed that there is an urgent need to educate the ICU staff nurses regarding central line associated blood stream infection.

PART III: EVALUATION OF EFFECTIVENESS OF THE STP REGARDING KNOWLEDGE AND PRACTICE OF ICU STAFF NURSES WITH CLABSI

Section A: Quartile distribution of the pre-test and post-test knowledge scores of ICU staff nurses regarding central line associated blood stream infection.

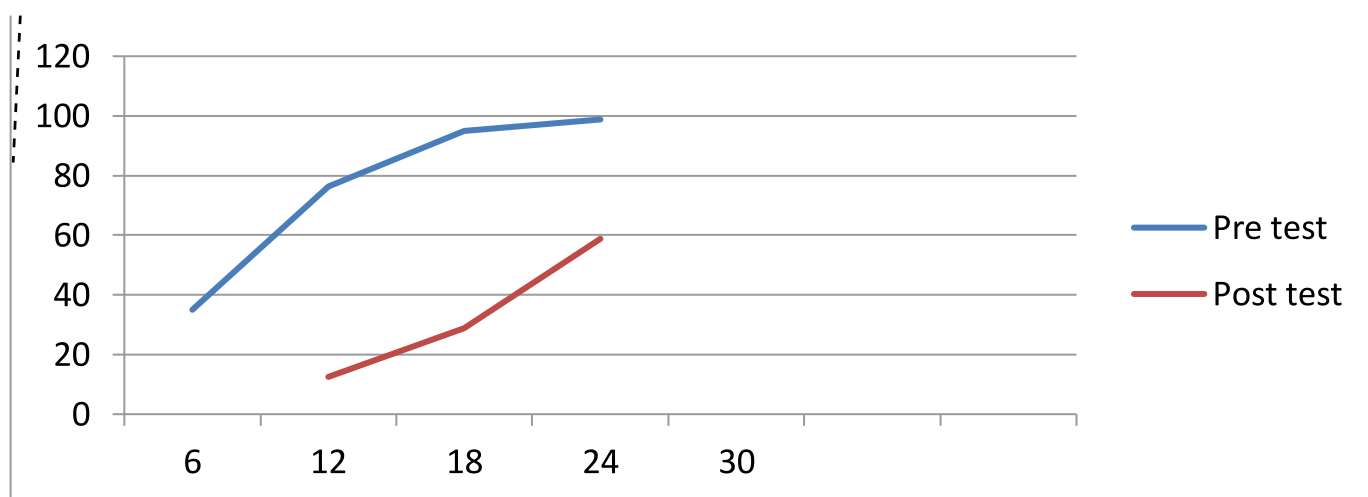


Figure 1: Representing pre-test and post-test knowledge scores of ICU staff nurses regarding central line associated blood stream infection.

PART IV: ASSOCIATION OF THE PRE-TEST KNOWLEDGE SCORES WITH THE SELECTED DEMOGRAPHIC VARIABLES

Section A: Overall association of pre–test knowledge scores with theselected demographic variables

Chi-Square test' was done to analyze the significant association of pre test knowledge scores with selected demographic variables.

Table2: Association of the pre-test knowledge scores with selected demographic variable.

N = 80

VARIABLES	>M	<M	CHI-SQUARE VALUE	RESULT
Age in years				
i) 23 - 30	14	11	1.362	Not significant
ii) 31 - 40	22	11		
iii) 41 -50	11	05		
iv) above 51	3	3		
Gender				
i) Male			1.465	Not significant
ii) Female	30 20	22 08		
Professional Qualification				
i) General nursing and Midwifery	13	14	4.164	Not significant
ii) Post certificate BSc(N)	14	06		
iii) BSc Nursing	18	09		
iv) M.Sc. nursing	5	1		
Years of experience				
i) < 1 year	24	15	2.264	Not significant
ii) 1-2 years	11	8		
iii) 2-3 years	11	3		
iv) more than 3 years	4	4		
Current area of experience				
i) Intensive care unit			2.442	Not significant
ii) cardiac ward	19	14		
iii) general ward	16	9		
iv) any other specify	11 4	3 4		
Inservice education attended.				
a) Yes			.656	Not significant
b) No	14 36	11 19		

M = Median(9) ; Table value=3.84 at df=1 ; Table value=5.99 at df=2 ; Table value=7.81 at df=3; $p < 0.05$

Chi-Square test was carried out to analyze the significant association between the pre-test knowledge scores and the selected demographic variables. The study findings has shown that, there was no significant association of pre-test knowledge score with any of the selected demographic variables.

Section B: Testing of Hypothesis; H_2

To evaluate the association of knowledge score with selected demographic variables, a research hypothesis and null hypothesis is formulated.

H_2 : There will be significant association of the pre test knowledge scores of staff nurses with selected demographic variables.

H_{02} : There will be no significant association between pre test knowledge score of the staff nurses on CLABSI with selected demographic variables at 0.05 level of significance.

Chi-square test was used to analyze the association of knowledge scores of staff nurses with the selected demographic variables such as age, gender, professional qualification, years of experience, area of experience and attended any in-service education on staff nurses regarding CLABSI.

Conclusion: Assessment of the level of pre test knowledge score among staff nurses depicts that, majority 53 (66.25%) of respondents had average knowledge scores and 19 (23.75%) of them had poor knowledge scores and none of the respondents possessed very poor, good or very good knowledge score category.

The knowledge scores of staff nurses regarding central line associated blood stream infection has revealed that, post-test mean knowledge score was found higher 24.26 (80.66%) and SD of 2.950 when compared with pre-test mean knowledge score which was 8.69 (28.96%) with SD of 5.402. The mean effectiveness score was 15.575 (51.90%) with SD of 2.452. The results of the study depicted that the structure teaching programme was very effective in improving the knowledge of the ICU staff nurses regarding CLABSI.

Reference:

1. Urden D Linda, Joseph K Davis and Thelen A Lynne. Essentials of Critical Care Nursing. Sydney: Mosby year Book, 1992. P 3-4.
2. Association for Professionals in Infection Control and Epidemiology. Guide to the elimination of catheter related bloodstream infections. Washington DC: Association for Professionals in Infection Control and Epidemiology. 2008:58.
3. Crnich, C. The Promise of novel technology for the prevention of intravascular device-related bloodstream infection. I. pathogenesis and short-term devices. Healthcare Epidemiology. 2002;34:1232-42.
4. Zhang L, Rickard, C. Impact of microbial attachment on intravascular catheter-related infections. International Journal of Antimicrobial Agents. 2011;38(1):9-15.
5. Denise F Polit and Berne Delte P Hungler, Nursing Research Principles and Methods. Philadelphia: J B Lippincott Company, 2003. P 69-70.