# "A Study To Assess The Effectiveness Of Demonstration On Uses Of Bundle Approach In Prevention Of Central Line Association Blood Stream Infection Regarding Practice Among B.Sc Nursing 3rd Year Students At Selected College Of Nursing, Jabalpur [ M.P.]."

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## ABSTRACT

**BACKGROUND OF THE STUDY :**Central venous catheterisation is commonly used in critical patients in intensive care units (ICU). It may cause complications and attribute to increase mortality and morbidity. At coronary ICU (CICU) of cardiac hospital, central line-associated bloodstream infection (CLABSI) rate was 2.82/1000 central line days in 2015 and 3.11/1000 central line days in 2016. Working in collaboration with Institute for Healthcare Improvement (IHI), we implemented evidence-based practices in the form of bundles in with the aim of eliminating CLABSI in CICU.

**Method of data collection**

**Phase 1-** Conducting pre-test by the use of observational checklist.27

**Phase 2-** Performed demonstration with using Lesson plan based on use of bundle approach in prevention of Central line association blood stream infection. we use, Poster, Pamphlet, PowerPoint, Blackboard, Flipchart for educating the Student of B.Sc. nursing 3rd year**.**

**Phase 3-** After 1 week level of practice will be again assessed by using the same observational checklist.

**Result:** The comparison of Pre practice score and Post practice score with mean and SD, the mean of Pre – test [9.0167] & Post – test [ 15.2917] and SD of Pre – test [ 5.4733] & Post – test [4.0098].t value **6.275** The table value at 0.05 level is 2.00 calculated value was more than table value [ 6.275 > 2.00] at significant level [0.05] alternative hypothesis was accepted the statistically high significant difference between the pre and post -test level of practice . Hence it indicate the demonstration was effective.

**Keywords** :-*Bundle approach , Prevention, Central venous catheter.*

## INTRODUCTION

A central venous catheter (CVC), also known as a "central line," is a thin, flexible tubeinserted into a large vein near the heart, typically in the neck, chest, or groin, allowing for the administration of medications, fluids, blood products, or the drawing of blood samples, particularly when long-term or complex intravenous therapies are required; it provides access to the superior vena cava, a large vein directly leading to the heart. A device used to draw blood and give treatments, including intravenous fluids, drugs, or blood transfusions.   Central venous catheterization is an invasive medical procedure applied widely in pediatric and adult patients not only to measure central venous pressure but also to secure a stable route for continuous drug administration. Incorrect insertion procedure can harm patient. Anaesthesiologists regularly perform catheterization during medical care; thus, they need to fully understand its safety and risks and be able to do it properly. This guide describes the current state of central venous catheterization and proposes the directions for the procedure. Note that the items in this guideline are described for general principles. Decisions for the procedure on specific cases must be made by the physicians in charge.

## OBJECTIVES

**1.** Assess pretest practice score on use of bundle approach in prevention of central line associated blood stream infection among B.SC. Nursing 3rd year students at selected college of nursing, Jabalpur.

2. Assess the post-test practice score on use of bundle approach in prevention of central line association blood stream infection among B.SC. Nursing 3rd year students at selected college of nursing, Jabalpur.

3.Evaluate the effectiveness of demonstration on uses of bundle approach in    prevention of central line association blood stream infection among B.Sc. Nursing 3rd year students at selected college of nursing, Jabalpur.

4. Find out the association between Pre-practice score regarding use of bundle approach in prevention of central line associated blood steam infection regarding practice among B. Sc nursing 3rd year students at selected college of nursing, Jabalpur with their selected demographic variables.

## .REVIEW OF LITERATURE

2.2.5 Jacqueline f. Lavallée Trish a. Grayjo Dum ville Wanda Russell & Nicky Cullum (2017) conducted a study on the effects of care bundles on patient outcomes: a systematic review and meta-analysis Care bundles are a set of three to five evidence-informed practices performed collectively and reliably to improve the quality of care. Care bundles are used widely across healthcare settings with the aim of preventing and managing different health conditions. This is the first systematic review designed to determine the effects of care bundles on patient outcomes and the behaviour of healthcare workers in relation to fidelity with care bundles. The Method used in this study was the non-randomised studies (comprising controlled before-after studies, interrupted time series, cohort studies) of care bundles for any health condition and any healthcare settings were considered. Following the removal of duplicated studies, two reviewers independently screen 3134 records. Three authors performed data extraction independently. We compared the care bundles with usual care to evaluate the effects of care bundles on the risk of negative patient outcomes. Randomeffect models were used to further explore the effects of subgroups. The Results of the study included total; 37 studies (6 randomised trials, 31 controlled before-after studies) were eligible for inclusion. The effect of care bundles on patient outcomes is uncertain. For randomised trial data, the pooled relative risk of negative effects between care bundle and control groups was 0.97 [95% CI 0.71 to 1.34; 2049 participants]. The Conclusion of the study Very Low-Quality evidence from controlled before-after studies suggests that care bundles may reduce the risk of negative outcomes when compared with usual care. By contrast, the better-Quality evidence from six randomised trials is more uncertain.

**Methodology:**

In this study quantitative and evaluative research approach was used and a pre-experimental [one group pre-test post-test design was used. The study was conducted in selected B.Sc. nursing 3rd year students of Jabalpur the sample consists 60 students of B.Sc. nursing 3rd year students by purposive sampling technique the data was analyzed using inferential or deferential statistics.

**ANALYSIS**

**Section I:** DEMOGRAPHIC DISTRIBUTION OF SAMPLES - The majority of 60 samples.

1. Maximum 39[65%] in the age group of 20 year -21 year , 16 [ 26.66% ] are in the age group of ] >21 year , 5 [ 8.33 %] are in the age group of 18 year – 19 year , 0 [0%] are in the age group of <18 year .

2. Maximum 58 [ 96.66%] are female students, 2 [ 3.33%] are male students.

3. Maximum 46 [ 76. 66%] students has previous knowledge, 14 [ 23. 33%] students has no previous knowledge.

4. Maximum 26[ 56.5%] students has information by Demonstration, 13 [ 28.3%] students has information by Book 7 [ 15.2%] students has information by Mass Media.

**SECTION II**

| S.NO | GRADE | FREQUENCY | PERCENTAGE | MEAN | SD |
|------|-------|-----------|------------|------|-----|
| 1 | GOOD | 1 | 1.6% | | |
| 2 | AVERAGE | 21 | 35% | 9.0167 | 5.4733 |
| 4 | POOR | 38 | 63% | | |

**SECTION III**

| S.NO | GRADE | FREQUENCY | PERCENTAGE | MEAN | SD |
|------|-------|-----------|------------|------|-----|
| 1 | GOOD | 4 | 6.66% | | |
| 2 | AVERAGE | 51 | 85% | 15.2917 | 4.0098 |
| 3 | POOR | 5 | 8.33% | | |

## SECTION IV

SIGNIFICANCE DIFFERENCE BETWEEN PRE - TEST AND POST - TEST PRACTICE SCORE BY USING "t" TEST                                              **N = 60**

| S.NO | DESCRIPTION | MEAN | MEAN DIFFERENCE | SD | SD DIFFERENCE | t value |
|------|-------------|------|-----------------|-----|---------------|---------|
| 1 | PRE-TEST | 9.0167 | | 5.4733 | | |
| 2 | POST-TEST | 15.2917 | 6.275 | 4.0098 | 1.4635 | 6.275 |

**Table 7, Figure 7** Indicate the comparison of Pre practice score and Post practice score with mean and SD, the mean of Pre – test [9.0167] & Post – test [ 15.2917] and SD of Pre – test [ 5.4733] & Post – test [4.0098].
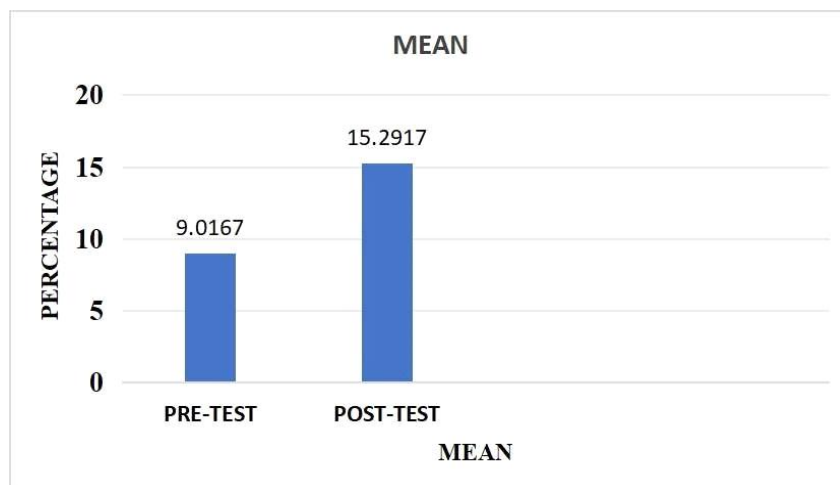
**Table value**-the table value at 0.05 level.

## FINDINGS:-

Analysis revealed that their was marked increase in mean value 9.0167 in the pre-test to 15.2917 in the post test and the standard deviation is increased from 5.4733 in pretest to 4.0098 in the posttest. The mean difference was6.275 and the SD difference was1.4635 and the calculate dt value was 6.275 and the table value at 0.05 level is 2.00 calculated value was more than table value [ 6.275 > 2.00] at significant level [0.05] alternative hypothesis was accepted the statistically high significant difference between the pre and post -test level of practice . Hence it indicate the demonstration was effective. According to study only one student having good practice skill out of 60 in pre-test. On the association of pre practice score with the demographic variable source of knowledge are significant and others are non- significant.

## LIMITATIONS

The study is limited for 60 B.SC Nursing 3rd year students.

The data is limited to only during time of data collection.

## CONCLUSION

A "bundle approach" is helpful in preventing infection because it involves implementing a set of evidence-based practices together, ensuring a more comprehensive and

reliable strategy to combat infection compared to relying on single interventions alone; by consistently following all elements of the bundle, healthcare providers can significantly reduce the risk of infections by addressing multiple potential pathways of transmission at once bundle approach is important for preventing central line-associated bloodstream infections (CLABSIs) because it helps reduce the risk of contamination of the central line.know bundle approch would help in minimizing eradication of central line infection.

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