



Nursing Student's Knowledge On Care Of Invasive Lines: A Descriptive Survey

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Abstract

Introduction: Invasive lines are used frequently in patients with haemostatic defects, often without any attempt to correct the abnormalities. Indwelling urinary catheters, Dialysis catheter, central venous catheter is frequently used in critical care units in intensive care units. It is important to care for all invasive lines to prevent further complication or lead to secondary diagnosis. **Objectives:** To assess the knowledge regarding care of invasive lines among UG students. **Methods:** The study adopted survey method design to collect data from 32 participants. Convenient sampling method was used, semi structured questionnaires used to collect data. Data was analysed by using measurements of univariate and bivariate descriptive statistics. **Results:** The result showed that majority (68.75%) of students belong to the average knowledge regarding care of invasive lines and (21.87 %) had good knowledge regarding care of invasive lines. None of students had an excellent knowledge regarding invasive lines. **Conclusion:** Therefore, knowledge of invasive lines and care about knowledge is important in playing major role in prevention of septic shock and prevention of hospital acquired infection (HAI) and reduce the risk of infection

Keywords: Invasive lines, undergraduate students

Introduction

Invasive lines are used frequently in patients with haemostatic defects, often without any attempt to correct the abnormalities. Nevertheless, rates of haemorrhage are low and appear to be closely related to the level of experience of the physician rather than to defects in haemostasis¹. Indwelling urinary catheters are most used to assist people who cannot urinate on their own. Indications for using a catheter

include providing relief when there is urinary retention, monitoring urine output for critically ill persons, managing urination during surgery, and providing end-of-life care.⁴ Dialysis catheters are artificial indwelling transcutaneous conduits used to access the intravascular space or intraperitoneal space for renal replacement therapy. Different types of catheters are used for different dialysis modalities: wide-bore central venous lines are used in extracorporeal reand ultrafiltration), while smaller transabdominal lines are used in peritoneal dialysisrenal replacement therapy (which haemodialysis, hemofiltration, hemodiafiltrationand ultrafiltration), while smaller transabdominal lines are used in peritoneal dialysis.²

An invasive device provides an entry point for micro-organisms to enter the body and is a potential source for introducing infection. Standard precautions are essential infection prevention and control practices to prevent the spread of infection within General Practice. All staff involved in providing care should be educated about the standard principles of infection prevention and control.¹

invasive devices such as intravenous lines (IVs) and urinary catheters are necessary tools to help treat people who are ill. They are commonplace in most healthcare facilities and are even used at home.³They are also often taken for granted by the people who use them. Unfortunately, whenever an invasive device is used, there is a potential for infection, including healthcare-acquired infections (HAIs), which can lead to sepsis.²

Sepsis and septic shock can result from an infection anywhere in the body, such as pneumonia, influenza, or urinary tract infections. Worldwide, one-third of people who develop sepsis die. Many who do survive are left with life-changing effects, such as post-traumatic stress disorder (PTSD), chronic pain and fatigue, organ dysfunction (organs don't work properly), and/or amputations.⁵

When a medical device is inserted, it's important that the healthcare providers maintain a sterile field. The equipment they use must be sterilized before it is inserted into the body and sterility must be maintained during the insertion procedure. If the device is contaminated or becomes contaminated during the procedure, there is the risk of infection.⁶

Most facilities have guidelines regarding how frequently IV lines and IV sites (where the catheter enters the skin) should be changed. The Centres of Disease Control and Prevention (CDC) recommends that IV tubing be changed every three to seven days, unless the patient is receiving blood products or fat emulsions. ⁷The tubing for these products must be changed within 24 hours. Certain types of medications given by IV also require more frequent changes. While it can be painful to have an IV inserted, IV catheter should be removed and the IV restarted in another are every 72 to 96 hours.⁸

The objectives of the study were:

- To assess the knowledge regarding care of invasive lines among UG students.

Materials and methods

The study adopted survey method design to collect data from 32 participants. Convenient sampling method was used, semi structured questionnaires was used for assessing the knowledge in caring of invasive lines among nursing students. Data was analysed by using measurements of unilabiate and bivariate descriptive statistics.

Results

Sample characteristics: there were total 32 nursing students taken for this study from 3rd year BSc nursing working in intensive care unit and caring for critically ill patients with invasive lines.

Objective: To assess the knowledge regarding care of invasive lines among UG students.

Distribution of Item wise analysis towards care of invasive lines.

Sr.no	Item Analysis	f	%
1	central line-associated bloodstream infection caused by	17	53%
2	test is needed to determine the cause of a central line-associated bloodstream infection?	22	69%
3	of the following is the optimal skin preparation prior to central venous catheter (CVC) insertion?	6	19%
4	After withdrawal of blood through central line, central line should be flushed with.....?	7	22%
5	inserting a central line, after how many failed attempts should you seek help?	20	62%
6	are taking care of a 55-year-old diabetic patient admitted with acute renal failure. The nephrology team has decided that a dialysis catheter. Which site is the preferred choice for central line insertion?	7	22%
7	What materials are necessary when preparing to start an IV	16	50%
8	Which score/assessment is used for assessing IV line is patent or not	9	28%
9	What are the sign which indicates IV line is not insitu?	18	56%
10	What is the best choice of cannula size?	14	44%
11	When a patient who needs an IV has cold extremities and few veins are visible or small, which of the following are acceptable techniques to help improve the likelihood of a successful IV insertion?	13	41%
12	If a patient is expected to need multiple IVs or an extended hospitalization, it is best to choose which of the following sites for the first IV:	19	59%
13	Peritoneal dialysis uses a _____ as the access for treatment.	12	37%
14	In Haemodialysis (HD), blood is filtered through a_____.	16	50%
15	In peritoneal dialysis (PD), draining out the dirt fluid and putting in the clean fluid is called:	12	12%
16	A kidney transplant is cure for kidney disease:	12	37%
17	Standard in-center HD is most often done three times a week for about 4 hours per treatment:	21	66%
18	Getting longer and/or more frequent HD treatments can:	15	47%

Table 1:

Table depicting the nursing students knowledge on care of invasive lines.

components	Range	Students score(x)
Excellent	15 to 18	0
Good	10 to 15	7
Average	5 to 10	22
Poor	1 to 5	3

This table depicts the Nursing student's knowledge on care of invasive lines. No students have excellent knowledge about invasive lines. There is total 7 (21.775%) students who have GOOD knowledge regarding invasive lines ranging of marks 10-15. There is total 22(68.22%) students who have average knowledge regarding invasive lines ranging of marks 5-10. There is total 3(9.37%) students who have Poor knowledge regarding invasive lines ranging of marks 1-5.

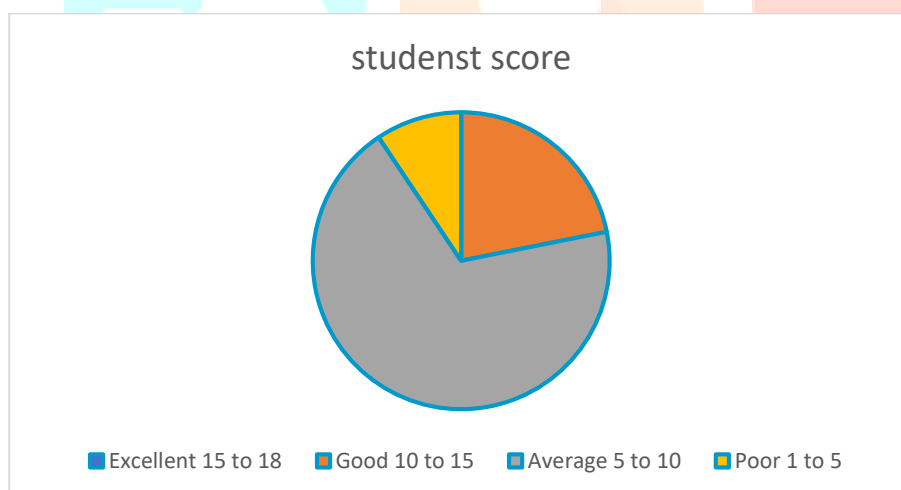


Fig1.1

Fif1.1 A pie diagram showing Nursing student's knowledge on care of invasive lines:

Discussion:

Data has collected from 32 students of nursing undergraduate students from MGM New Bombay college of nursing through Self-reported Structured questionnaire to assess knowledge of students out of total 18 score. The questions were arranged on the basis of three invasive lines that is. Central Venous Catheter, Foleys Catheter and Hemodialysis catheter. All the invasive lines were having 6 questions to test the knowledge regarding care of all three invasive lines.

Data was collected through self-reported questionnaire which was conducted on google form and data was collected and interpretation was done. Descriptive & bivariate statistics used for data analysis.

The result revealed that majority 47.5% of students belong to the age group of 3rd year BSc Nursing students has average knowledge regarding invasive lines, among the total number of students that is out of 32 Only 7 (21.775%) of nursing students found to have good knowledge regarding invasive lines out of total of 32 students and 3(9.37%) students found poor knowledge regarding invasive lines out of total of 32 students.

This review of current research knowledge identified the need for a well-designed intervention study as well as a limited number of studies evaluating the cost-effectiveness of using an antiseptic during catheter insertion. As health budgets are finite, clinical practice needs to use cost-effective strategies

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