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A STUDY TO EVALUATE THE EFFECTIVENESS OF DEMONSTRATION METHOD ON KNOWLEDGE REGARDING INSERTION OF INTRAVENOUS CANNULATION AMONG B.Sc. NURSING II SEMESTER STUDENTS AT KRISHNA NURSING AND PARAMEDICAL INSTITUTE, LUCKNOW, UTTAR-PRADESH.

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Intravenous (IV) cannulation is a technique in which a cannula is placed inside a vein to provide venous access. Venous access allows sampling of blood, as well as administration of fluids, medications, parenteral nutrition, chemotherapy, and blood products. Insertion of an intravenous (IV) cannula involves connecting a tube into a patient's vein so that infusions can be inserted directly into the patient's bloodstream. ***Objective: -****the main objective to evaluate the effectiveness of Demonstration method on knowledge regarding Intravenous cannulation Among B.Sc. Nursing II Semester Students at Krishna Nursing and Paramedical Institute, Lucknow, Uttar-Pradesh* ***Method: -*** *A quantitative research approach, pre-experimental one group Pre-Test and Post-Test research design was used. The sample size was 30 students were selected using Purposive sampling technique. Initially the researcher got permission from concerned authority of Krishna Nursing and Paramedical Institute. The written consent was obtained from samples. The tool used were, Performa of demographical variable, self-structured questionnaire. Assessment of pre-existing level of knowledge done by administering knowledge questionnaire after that on same day Demonstration on knowledge regarding Intravenous Cannulation given to the students, in that all the Aseptic technique, gloving, insertion, flushing and after care everything demonstrated to the students. After 7 days post-test was conducted by the researcher.* ***Result-****The result of the study revealed that there was significant difference between the mean Pre-Test (12.00) and Post-Test (19.32) knowledge scores, it denotes that increased knowledge level after intervention.* ***Conclusion-****The study concluded that the Structured Teaching Programme was effective in enhancing knowledge of students about Importance of olive oil massage in LBW babies and that was more effective and beneficial for them.*

Keywords: Intravenous Cannulation, Demonstration Method, fluids, medications, parenteral nutrition, vein, Insertion and infusions.

INTRODUCTION

In Present days of health care, Student Nurses must possess up to date knowledge while practicing intravenous cannulation for safe nursing practice as well as delivering an excellent quality of care. Nurses are responsible for provision of safe, patient centered and effective care to the patients. To follow the proper and aseptic technique for inserting the Intravenous canulization in aspect to prevent the complications, puncture site must be constantly monitored for early identification of signs. In addition, hands should be decontaminated properly before gathering equipment, palpation of the veins, cannulation and placing gloves on hand, repeat it after removing gloves and before and after the contact with patients. Intravenous Cannulation are primarily used for therapeutic purposes such as administration of medications, fluids, and blood products. purpose of cannulation is to deliver fluids, antibiotics and blood products intravenously (into the vein) to improve the condition for which a patient is being treated**.** Cannulas (also known as venflons) are available in various colours, each of which correspond to the size of the tube. The required size depends on, what will be infused, for example: colloid, crystalloid, blood products or medications and at which rate the infusion is to run. In addition, the patient veins may dictate the size to use, only insert a blue (small) cannula into an elderly patient's vein. The main aim of intravenous management is safe, effective delivery of treatment without discomfort or tissue damage and without compromising venous access, especially if long term therapy is proposed.

Veins have a three-layered wall composed of an internal endothelium surrounded by a thin layer of muscle fibres that is surrounded by a layer of connective tissue. Venous valves encourage unidirectional flow of blood and prevent pooling of blood in the dependent portions of the extremities; they also can impede the passage of a catheter through and into a vein.

Bertilla Scarlet DSilva (2021) conducted a study to assess the level of knowledge of nurses on insertion and care of Peripheral Intravenous Cannula and determine the effectiveness of video assisted teaching program. One group pre-test post-test research design was used for the study. Data was collected from 30 staff nurses working in Goa Medical College and hospital using nonprobability convenience sampling technique. Data was collected using a structured questionnaire that consisted of demographic data and multiple-choice questions and were analysed using descriptive and inferential statistics. The major findings of the study were that, maximum number of staff nurses (67%) were between the age group of 21-30 years, 45.16% had average knowledge and 16.25% had poor knowledge regarding insertion and care of Peripheral Intravenous Cannula. So, with aspect of above study as a researcher thought to demonstrate and teach students regarding Intravenous Cannulation and proper technique about it as they can follow the correct practice.

Majority of the student nurses not knowing how to insert a cannula in different aged patients. And after-care and maintain peripheral intravenous line and also there is more gap in this basic nursing skill and Practice. The aim of this study is to evaluate the effectiveness of knowledge of students.

STATEMENT OF THE PROBLEM

A Study to Evaluate the Effectiveness of Demonstration on Knowledge Regarding Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students in t Krishna Nursing and Paramedical Institute, Lucknow, Uttar-Pradesh.

OBJECTIVES

- To assess the existing level of knowledge regarding Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students
- To evaluate the effectiveness of Demonstration regarding Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students
- To find out the association between pre-test knowledge scores Regarding Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students with the selected demographic variables.

RESEARCH HYPOTHESIS

H_1: There will be significant difference between pre-test and post-test knowledge score Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students after demonstration.

H_2: There will be significant association between pre-test knowledge scores Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students with their selected socio-demographic variables

MATERIAL AND METHODS

Research Design:

The pre- experimental (one group pre-test post-test)research design.

VARIABLES

The variables for the present study are-

Independent Variable: In this study researcher used Demonstration as an independent variable.

Dependent Variable: In this present study the dependent variable was knowledge regarding Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students.

Setting:

The study was conducted in Krishna Nursing and Paramedical Institute, Lucknow, U.P.

Population:

Population of this study was students who were in B.Sc. Nursing II Semester in Krishna Nursing and Paramedical Institute, Lucknow, U.P.

Sample:

The sample for the present study comprised of students studying in Krishna Nursing and Paramedical Institute, Lucknow, U.P.

Sample size

The investigator selected 30 students who fulfilled the criteria of selection and studying in Krishna Nursing and Paramedical Institute, Lucknow, U.P.

Sampling Technique:

The Purposive Sampling Technique was used by investigator for this study.

DATA ANALYSIS

The demographic variables were organized by using descriptive and inferential statistics. The data from the structured knowledge questionnaire before and after Demonstration on Intravenous Cannulation will be analyzed using mean, mean percentage, standard deviation (SD) paired "t" test. The association between the level of knowledge and the selected demographic variables were assessed by Chi- square test.

SCORE INTERPRETATION-

For knowledge item score 1 was awarded for each correct answer and 0 for wrong answer in all items. Thus a total 20 scores were allotted under knowledge aspect and to interpret the level of knowledge, score were distributed as follows**: -**

S. No	Level of knowledge	Score level	Score percentage
1	Inadequate knowledge	0-6	≤50%
2	Moderate knowledge	7-13	51-75%
3	Adequate knowledge	14-20	≥76

RESULT

The data obtained were entered in a master data sheet for tabulation and statistical processing. The analysis of data is organized and presented under the following sections:-

Section- I: Distribution of samples according to their demographic variables.

Section- II: Effectiveness of Demonstration on knowledge regarding Insertion of Intravenous Cannulation comparing Pre-test and Post-test knowledge score among B.Sc. Nursing II Semester Students

Section-III: Association between the level of Pre-test knowledge score with their selected demographic variables.

SECTION- I: Distribution of samples according to their demographic variables

Table 1: Frequency and Percentage distribution of students according to their demographic variables.

N=30

S. No	VARIABLES	FREQUENCY	FREQUENCY PERCENTAGE
1	**Age**		
	17-18 years	15	50
	19-20 years	8	27
	21-22 years	7	23
2	**Gender**		
	Male	7	23
	Female	23	76
3	**Type of Family**		
	Nuclear	16	53
	Joint	14	46
4.	**Area of Residence**		
	Urban	22	73
	Rural	8	26
5.	**Previous knowledge**		
	Yes	4	13
	No	26	86
6	**Source of knowledge**		
	Mass media	0	0
	Book	3	10
	Journals	0	0
	Friends and Relatives	1	3
	Others	0	0

SECTION II- Table No. 2:- Assessment of Pre-Test and Post-Test level of knowledge scores Insertion of Intravenous Cannulation comparing among B.Sc. Nursing II Semester Students

N=30

S.NO	Level of knowledge	% of score	Pre test		Mean	SD	Post -test		Mean	SD
			Frequency	Percentage %			Frequency	Percentage %		
1.	Inadequate	>50	14	47%			0	0%		
2	Moderate	50-75	16	53%	6.97	3.36	3	10%	16.7	2.15
3.	Adequate	<75	0	00%			37	90%		

Table No. 2 reveals that in pretest 14 samples (47%) had poor knowledge and 16 (53%) of them had fair knowledge. Mean score was 6.97 with SD of 3.36. In post-test no samples (0%) had poor knowledge 3(10%) of them had fair knowledge and 27(90%) had good knowledge. Mean score was 16.7 with SD of 2.15

Table 3- Testing of Hypothesis

H_1- There will be significant difference between pre-test and post-test knowledge score Insertion of Intravenous Cannulation Among B.Sc. Nursing II Semester Students after demonstration

(N=30)

	Mean and S.D.	**Mean difference**	**df**	**'t' value**	**p**
Pre-Intervention- Knowledge Score	6.97± 3.36	9.73	29	15.35	**<0.05**
Post- Intervention - Knowledge Score	16.7 ± 2.15				

Table 3 shows the comparison between pre-test and post-test scores of knowledge among B.Sc. Nursing II Semester Students after demonstration **I**n this mean difference was 9.73, with the combined SD of 5.51. The calculated 't' value (15.35) was higher than the table value (1.699) with the degrees of freedom 29. Therefore, there was significant difference in pretest and post-test knowledge scores at <0.05 level of significance. Hence this indicates that Demonstration was effective in providing knowledge regarding Insertion of Intravenous Cannulation among students. Hence, research hypothesis (H_1) is accepted and null hypothesis ($H0_1$) is rejected

DISCUSSION: This study reveals that reveals that in pretest 14 samples (47%) had poor knowledge and 16 (53%) of them had fair knowledge. Mean score was 6.97 with SD of 3.36. In post-test no samples (0%) had poor knowledge 3(10%) of them had fair knowledge and 27(90%) had good knowledge. Mean score was 16.7 with SD o f

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Above study stated that knowledge level of staff nurses was enhanced through lecture cum demonstration method. If we will prepare students Nurses from beginning the will learn the best.

RECOMMENDATION:

C o n

- A similar study on a large scale including hospitals across the country can be carried out in order to estimate the level of knowledge and practice regarding intravenous cannulation for generalization of findings.
- Study can be conducted to evaluate the effectiveness of Lecture cum demonstration versus other methods of teaching on intravenous cannulation.
- An experimental study can be undertaken with large sample size to assess the level of knowledge and practice for generalization of findings.
- Study can be conducted on senior nurse's i.e. ward in charges and supervisors on intravenous cannulation, so that they can educate their subordinates.
- Practice of intravenous cannulation can be conducted with use of IV simulation model.
- A study could be conducted to compare the effects of learning of intravenous cannulation in skills centre and clinical setting among the student nurses.

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