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## A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE OF NURSING PERSONNEL REGARDING INTRAVENOUS THERAPY AND ITS SELECTED COMPLICATIONS

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### ABSTRACT

The present study was designed to assess the knowledge and practice of nursing personnel regarding Intravenous therapy and its selected complications in selected wards of Hospital. This was a descriptive design. The data was collected from 52 registered nurses through convenience sampling. The tool used for data collection was a structured questionnaire for knowledge and Observational checklist to assess practice developed by the researcher. The study findings revealed that among 52 nurses, 28 (54%) had inadequate knowledge and 35(67%) had low satisfactory practice regarding I.V therapy and its selected complications. Hence, the study gave the evidence that the regular education and in-service program on peripheral intravenous cannulation can improve the knowledge and practice of staff nurses.

### KEYWORDS

Knowledge, Practice, Intravenous therapy and Its selected Complications.

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### INTRODUCTION

#### “THE RECOGNITION OF IGNORANCE IS THE BEGINNING OF WISDOM”

Peripheral intravenous cannulation is most widely used procedure in a hospital or in a community setting. Peripheral venous devices were introduced more than 40 years ago. Today's hospitals rely on intravenous catheters as essential tools to deliver intravenous medications, blood products and nutritional fluids. And also used for Hemodialysis, hemodynamic monitoring and blood sampling for biomedical or hematological parameters. As many as 90% of the patients receive infusion therapy during their hospital stay.

An article on IV therapy and liability issues also cited that in the US there are many potential complications associated with intravenous therapy. The study result found out that two of the main complications were common such as infiltration and phlebitis, it could be easily preventable.

The insertion and care of peripheral cannula is a routine task for nurses of all kinds of care. Starting I.V infusions requires most challenging skills in nursing. Nurses are responsible for initiating, monitoring, maintaining, and discontinuing the IV infusion and for client teaching related to the infusion. The registered nurse shall be committed and competent in all aspects of IV therapy to ensure safety and quality of patient care. The nurses with inadequate knowledge and improper practice of I.V therapy are fraught with serious complications.

#### **Need for the study**

Rajan (1999), reported that I.V related complications are estimated 4,00,000 out of 5 million clients who are catheterized each year. Complications arises from omissions and commissions due to poor relationship between the knowledge and practice of nurses. R. Wilkinson (1996) in a study on nurses concern about IV therapy and devices found that incidences of complications due to intravenous catheterization varied such as phlebitis and infections due to improper position and site accounted for 44%, IV infusion running too slow 42%, patient interference 41.31 per cent, IV running too fast 38%, Infiltration 23 per cent and IV free flow 14.5 percent Kagel E M, Rayan G M (2001) studied the complications of intravenous catheters in the hand and forearm. The records of 67 patients who developed intravenous catheter related complications were reviewed. More than 50% of minor complications occurred in the hand and wrist and more than 50% of major complications occurred in the hand. In 68% of minor complications, the patients were aged 50 years or older and 68% were women.

An article on clinical audit documenting insertion date of peripheral intravenous cannulae sited the poor compliance of medical and nursing staff despite the awareness provided to them on the existing guidelines on optimal time for changing peripheral

intravenous catheters and documentation of post insertion. This thus increased the levels of superficial phlebitis post insertion of PIC. Therefore the study insisted a need for timely reorientation and re-education of the staff nurses.

Therefore, the investigator felt the need that it is important know the degree of knowledge and practice in I.V infusion, can contribute safe infusion and prevent complications.

#### **Statement of the problem**

A Descriptive study to assess the knowledge and practice of nursing personnel regarding Intravenous therapy and its selected complications in selected wards of Christian Fellowship Hospital, Oddanchatram<sup>1-4</sup>.

#### **OBJECTIVES**

1. To determine the existing knowledge regarding Intravenous therapy and its selected complications among nursing personnel.
2. To determine the existing practice regarding Intravenous therapy and its selected complications among nursing personnel.
3. To describe the relationships between existing knowledge and practice of nursing personnel regarding Intravenous therapy and its selected complications.
4. To find out the association between knowledge and demographic variables of nursing personnel regarding Intravenous therapy and its selected complications
5. To find out the association between practices demographic variables of nursing personnel regarding Intravenous therapy and its selected complications.

#### **Conceptual Framework**

Based on general system model approach by Ludwig Von Bertalanffy (1968).

#### **MATERIAL AND METHODS<sup>5-8</sup>**

A descriptive approach was used. A descriptive research design was adapted in the study. The samples were the registered nurses working in selected wards in the different shifts of duties. Non-probability convenient sampling technique was used

to select the samples. Total sample size was 52 registered nurses. The inclusion criteria were registered nurses who performed I.V therapy on patients freshly. The data collection instruments were as follows:

1. Demographic variables
2. Structured knowledge questionnaire, which includes 40 statements regarding intravenous therapy and its complications.
3. Observational checklist to assess practice. It was included with 24 items regarding the practices towards intravenous cannulation and its complications.

**RESULTS**

Regarding knowledge of nursing personnel, the study findings revealed that among 52 nurses, majority of the nurses had 28 (54%) inadequate knowledge and only 13(15%) had adequate knowledge (Figure No.1). The results may be due to less exposure to reading current journals. Thus, this study clearly point out that important to organize in-service education, insist to read current journals and introduce more journals for nurses in the institution to upgrade their knowledge.

Regarding practice of nursing personnel, majority of the nurses had 35(67%) low satisfactory practice regarding I.V therapy and its selected complications (Figure No.2). The results may be related to negligence in careful assessment and bedside monitoring during I.V therapy. Thus, it is also essential to formulate standard policy, a procedure manual and check list to improve their practice.

**Distribution of sample based on their knowledge and practice**

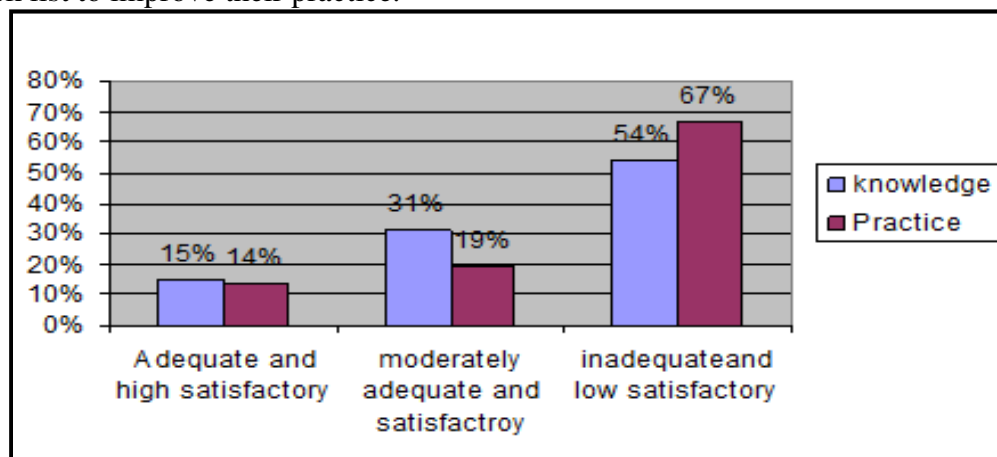
**Regarding IV therapy and its complications**

Among 52 samples,  $r = 0.36$  at 0.01 level of significance, it shows that there is a statistically positive correlation between knowledge and practice regarding IV therapy and its complications

**Relationship between knowledge and practice**

**Regarding IV therapy and its complications**

Regarding association between knowledge and practice with selected demographic variable, it found out that more experienced nurses had adequate knowledge and high satisfactory practice than less experienced ( $\chi^2=20.8$  at 0.05 and  $\chi^2=27.53$  at 0.05 level). The indentified that experience plays a major role in adequate practice. This may be due to less exposure to reading current journals and to initiate I.V infusions. So, it is essential to give more exposure in frequency of initiating I.V infusions to less experienced nurses.



**Figure No.1: Regarding IV therapy and its complications**

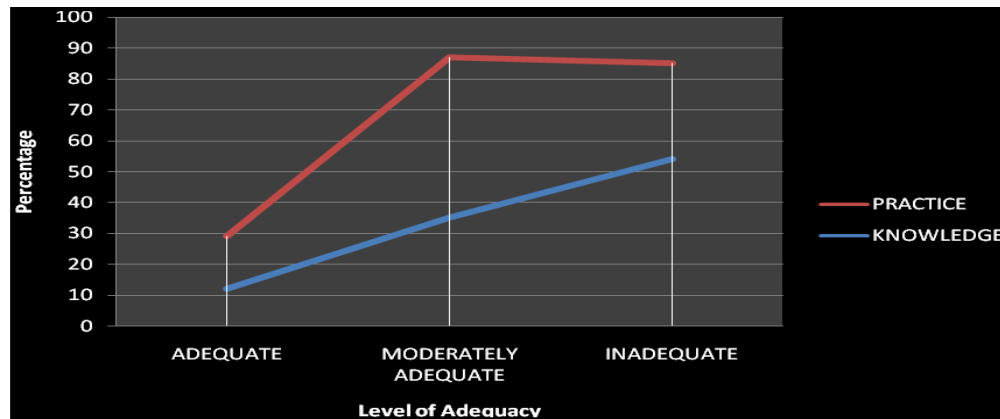


Figure No.2: Relationship between knowledge and practice

### CONCLUSION

The study findings clearly point out that the nursing personnel were in need of more knowledge regarding careful assessment of selected complications and effective practice in preventing occurrence of complications during IV therapy.

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### CONFLICT OF INTEREST

We declare that we have no conflict of interest.

### IMPLICATION

1. Formulate protocol to monitor I.V therapy.
2. Students must be motivated to read current journals and give more exposure to I.V therapy.
3. Organizing staff development programmes very often.

### RECOMMENDATION

Further research in this field on various aspects of I.V therapy and its complications will aid deeper knowledge and new interventions which improve the standard of our profession.

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