

## **Potency of STP on Knowledge and Practice about Intravenous Cannulation among the**

### **Staff Nurses**

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### **ABSTRACT**

A pre-experimental study was undertaken to assess the potency of structured teaching programme (STP) on knowledge and practice regarding intravenous cannulation (IV) among the staff nurses. A sample of 60 staff nurses were selected by using convenience sampling technique. A pre-test was conducted using knowledge questionnaire to assess the knowledge and observational checklist to assess the practice regarding intravenous cannulation which was followed by structured teaching programme. On the 7th day, post-test was conducted using the same knowledge questionnaire and observational checklist. The findings revealed that majority 52 (86.7%) of the staff nurses had adequate knowledge and majority 47 (78.3%) of the staff nurses had improve in their practice in the post-test. There was significance difference between the pre-test and post-test knowledge score ( $t=13.72$  at  $p<0.05$  level) and pre-test and post-test practice score ( $t=26.62$  at  $p< 0.05$  level). There was a high positive correlation ( $r=0.9$ ) between the pre-test knowledge and practice score of the staff nurses. The pre-test knowledge score of the staff nurses was found to be associated with educational qualification. The pre- test practice score of the staff nurses was found to be associated with

age, educational qualification and year of experience.

Keywords: Structured teaching programme, Intravenous cannulation.

## **INTRODUCTION**

Vascular Access Devices are a common and important part of clinical practice for the administration of parenteral fluids, nutrients, medications and blood products. In addition, vascular access devices provide a route to monitor the hemodynamic status of a client. Nurses practicing vascular access care require knowledge, skill, and judgment to manage vascular access devices. Nurses with additional education and clinical expertise in infusion therapy serve as clinical champions and advocates. Hence, nurses should be aware of recent changes in intravenous cannulation procedure, care of the patient by updating their knowledge to provide high quality of care for individual that reduces on instrumental complications.<sup>1</sup>

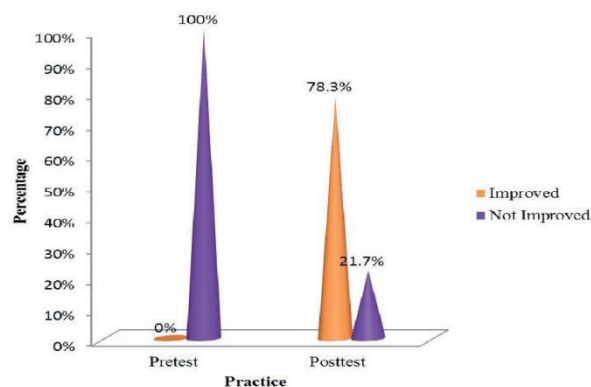
## **MATERIAL & METHODS**

Pre-experimental one group pre- test post-test design with an evaluative research approach was used for the study. Population for this study was staff nurses working in Dhiraj hospital vadodara. 60 sample was selected by using non probability convenience sampling technique who are fulfill the sampling criteria. for the was selected for who fulfill the sampling criteria.

## **FINDINGS**

The findings revealed that majority 37 (61.7%) of the staff nurses belongs to the age group of 20-25 years, maximum 34 (56.7%) of the staff nurses were having GNM qualification, maximum 38 (63.3%) of the staff nurses belongs to other areas of posting excluding ICU/ICCU, A & E and Recovery, maximum 47 (78.3%) of the staff nurses were having experience of 1-3 years, majority 31 (51.7%) of the staff nurses were not exposed to any in-service programme related to intravenous cannulation.

**Cone graph showing the percentage distribution of pre-test and post-test practice score on intravenous cannulation**



The mean of post-test knowledge score (24.50) was higher than the mean of pre-test knowledge score (17.93) with a mean difference of 6.57. The mean of post-test practice score (26.63) was higher than the mean of pre-test practice score (17.83) with a mean difference of 8.8. Thus, indicating an increase in the post-test knowledge and practice of the staff nurses. Hence, structured teaching programme was effective in improving the knowledge and practice of staff nurses regarding intravenous cannulation.

There was significance difference between the pre-test and post-test knowledge score with the paired-t value of 13.72 and found to be significant at  $p < 0.05$  level. There was significant difference between the pre-test and post-test practice score with the paired t-value of 26.62 and found to be significant at  $p < 0.05$  level.

There was a high positive correlation ( $r=0.9$ ) between the pre-test knowledge and practice score of the staff nurses. Thus, it indicates that knowledge and practice are interdependent of each other.

The pre-test knowledge score of the staff nurses was found to be associated with educational qualification and the pre-test practice score of the staff nurses was found to be associated with age, educational qualification and year of experience.

## **DISCUSSION**

The present study was conducted to evaluate the Knowledge and Practice about Intravenous Cannulation among the Staff Nurses belongs to Dhiraj Hospital, Piparia Vadodara. Out of 60 staff nurses that majority 37 (61.7%) of the staff nurses belongs to the age group of 20-25 years, maximum 34 (56.7%) of the staff nurses were having GNM qualification, maximum 38 (63.3%) of the staff nurses belongs to other areas of posting excluding ICU/CCU, A & E and Recovery, maximum 47 (78.3%) of the staff nurses were having experience of 1-3 years, majority 31 (51.7%) of the staff nurses were not exposed to any in-service programme related

to intravenous cannulation. After providing STP out of 60 staff nurses The mean of post-test knowledge score (24.50) was higher than the mean of pre-test knowledge score (17.93) with a mean difference of 6.57. The mean of post-test practice score (26.63) was higher than the mean of pre-test practice score (17.83) with a mean difference of 8.8.

Kaur, Thakur, Kaur, Bhalla (2011) carried out a study to assess the risk factors leading to phlebitis amongst the peripheral intravenous cannulated patients. The study was conducted in Emergency medical and surgical Out Patient Department of Nehru hospital, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh. Total 200 patients were studied by using consecutive sampling technique. Mean duration of cannula in situ was 2.66 days. Out of total 200 subjects 113 (56.5%) developed phlebitis. There was significant relationship between the phlebitis and duration of cannula in situ, administration of antibiotics and electrolytes ( $\chi^2=21.74, 6.96, 14.18, p<0.01$ ) respectively.<sup>3</sup>

Nishanth, Sivaram, Kalayarasan, Kate, Ananthakrishnan (2009) the prospective, randomized, controlled unblinded study was conducted in the Department of Surgery, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry between May and June 2006. The study evaluated the effect of elective re-siting of intravenous cannulae every 48 hours on the incidence and severity of peripheral venous thrombosis (PVT) in patients receiving intravenous fluids/drugs. The randomized 42 patients who were admitted for major abdominal surgery to either the control or study group ( $n=21$  in either group). The study concluded elective re-siting of intravenous cannulae every 48 hours results in a significant reduction in the incidence and severity of PVT.<sup>4</sup>

## **DISCUSSION**

This study was undertaken to assess the effectiveness of STP. The mean of post-test knowledge score (24.50) was higher than the mean of pre-test knowledge score (17.93) with a mean difference of 6.57. The mean of post-test practice score (26.63) was higher than the mean of pre-test practice score (17.83) with a mean difference of 8.8. Thus, indicating an increase in the post-test knowledge and practice of the staff nurses. Hence, structured teaching programme was effective in improving the knowledge and practice of staff nurses regarding intravenous cannulation.

### **Ethical approval**

Informed consent was obtained from participants and assured for anonymity. Since the study involved human subjects, a formal ethical approval was received from institutional ethical committee.

### **Conflict of Interest**

The author declares that they have no conflicts of interest.

### **Funding**

The study is not funded by any external sources and all expenses were borne by the students.

### **CONCLUSION**

The study revealed that the structured teaching programme was effective in improving the knowledge and practice regarding intravenous cannulation among the staff nurses.

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