

KNOWLEDGE AND PRACTICE REGARDING CARE OF PERIPHERAL INTRAVENOUS CANNULATION

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ABSTRACT

Introduction: Health of patients and the quality is essential for the delivery of healthcare. Everyday thousands of patient experience vein punctures in several health care facilities in the world. Peripheral puncture has been documented as the most common persistent procedure in hospitals. Peripheral intravenous catheters are usually used in hospitals to administer intravenous therapy. **Significance:** This study will enhance the knowledge and practice of nurses for caring the peripheral venous cannulation of clients. This study will improve the organization health services for the promotion of health and provide the safe and standard care to patient. **Purpose of the Study:** To assess the knowledge and practices among nurses towards care of peripheral intravenous cannulation **Research Questions:** What are the knowledge of nurses regarding peripheral intravenous cannulation care in Multan Institute of Kidney Diseases? What are the practices of nurses in Multan Institute of Kidney Diseases regarding to IV management? **Recommendation:** Give patients the appropriate education and empower patients to take responsibility of their care. Get consent from patients and give comprehensive explanation of the procedure, including its indications and contraindications. Prepare a special room for insertion of IV cannula. So in future, all health care setting may need to provide each ward a room for IV cannula insertion and no more at patient bedside. They need to set one rule so that everybody will follow same direction.

Keyword: Healthcare, Intravenous therapy, Peripheral intravenous cannulation.

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INTRODUCTION

Health of patients and the quality is essential for the delivery of healthcare. Everyday thousands of patient experience vein punctures in several health care facilities in the world. Peripheral puncture has been documented as the most common persistent procedure in hospitals. Peripheral intravenous catheters are usually used in hospitals to administer intravenous therapy.

Infection and phlebitis are of primary concern (Royal College of Nursing, 2010) a finest research project was conducted in Malaysia in 2011, 35.2% out of 428 adults' patients was admitted in government hospital with peripheral cannula and thrombophlebitis. (Coomarasamy, 2014)

Thrombus phlebitis and contamination are basic

intricacies of venous catheter and their utilization ought to be ended due to in suitable kept up of fringe iv cannulation. Checking and surveying intravenous cannulation site is a typical nursing activity. The ratio of thrombophlebitis in a specialist hospital in Malaysia was reported as 6.8% in 2011, and it decreased to 3.1% in 2012 and even further to 2.52% from January - June 2013 after implementation of a protocol (Abdul Aziz AR, 2013) Besides the littlest key fringe venous catheter ought to be all around archived with date, time, size and area in the understanding's graph. A main objective of fringe intravenous consideration is to look after suitable, patent, agreeable IV access that can be utilized to control the endorsed treatment reliably and securely keep from intricacies.

The Nosocomial Infection National Surveillance Service () that 6.2% of healing facility obtained bacteremia's may be genuinely inferable from fringe IV cannulation. The variety in medical caretakers' training and experience influences their execution of fringe intravenous cannulation care.

The qualities of patients experiencing peripheral intravenous cannulation additionally may have an effect on the achievement rates. Despite the known of worries of peripheral intravenous cannulation, there are nurses still not practicing the precise way of preservation of it. Thus, this document will study about "Nurses' Knowledge and Practice about caring of Intravenous Cannulation In Multan Institute of kidney Diseases. This will help to reveal their understanding concerning care of intravenous cannulation.

1.2) Significance:

The significance of study in peripheral intravenous (IV) treatment has become a vital part of existing patient care because the quantity of patients who require IV treatment has improved due to changes in recommending patterns and the acute nature of today's illness. This study will enhance the knowledge and practice of nurses for caring the peripheral venous cannulation of clients.

This study will improve the organization health services for the promotion of health and provide the safe and standard care to patient.

The copy of finding of will be shared with the Manager Nursing and nurses of Multan Institute of Kidney Diseases.

Almost 60% or above patients admitted to a hospital require the insertion of an IV cannula . IV care therapy is most important for the patient to prevent from numerous hospital acquired infections so this study will show the nurses knowledge and practices connected to safe and

appropriate management of peripheral intravenous cannulation which is given to the patient in health care setup.

1.3) Purpose of the Study:

- To assess the knowledge and practices among nurses towards care of peripheral intravenous cannulation

1.4) Research Questions:

The study is primarily concerned about the care and maintenance of peripheral intravenous cannulation: to assess nurses' knowledge towards care and maintenance of peripheral intravenous cannulation, to determine the contributing factors for complication of peripheral intravenous cannulation and to determine nurses' practice towards care and maintenance of peripheral intravenous cannulation. In order to determine the knowledge between the nurses towards care and maintenance of intravenous cannulation, numerous research questions are formulated as specified below. It does help to formulate the application in regard to this study:

- What are the knowledge of nurses regarding peripheral intravenous cannulation care in Multan Institute of Kidney Diseases?
- What are the practices of nurses in Multan Institute Of Kidney Diseases regarding to IV management?

1.5) Operational Terminology:

Knowledge:

1. Knowledge is the theoretical understanding of a subject.
2. Knowledge is awareness about information regarding perform task and their importance.

Practice:

1. Practice is the act of doing something again and again in order to become better at it.
2. Practice is a repeated performance of an activity in order to perfect a skill or learn.

Cannulation:

1. The insertion of a cannula into a body duct or



cavity, as into the trachea, bladder, or a blood vessel. Also called canalization.

- **Peripheral venous catheter:**
 1. A peripheral venous catheter (PVC or peripheral venous line or peripheral venous access catheter) is a catheter (small, flexible tube) placed into peripheral in order to administer medication or fluids.
- **Aseptic Technique**
 1. Aseptic technique is the execution of aseptic procedure to keep spread of infection.
- **Susceptible sites-**
 1. Aseptic strategy incorporates the usage of fitting hand cleanliness, use of sterile equipment, no touch technique and generous patient skin/site purifying.
- **Healthcare professional**
 1. A prepared individual from staff including yet not solely of nurses' specialists and working division professionals.
- **Infection:**
 1. Entry of a hurtful microorganism into the body and its multiplication and colonization in the tissues.
- **Peripheral cannula:**
 1. A particularly outlined adaptable tube intended for insertion into a vein, with a proximal connector to permit infusion or imbuelement of fluids. Sizes range from 14 gauge to 24.
- **Phlebitis:**
 1. Inflammation of a vein
- **Thrombosis:**
 1. Formation, development or existence of a blood clot within the vascular system.

2.1) Literature Review:

Peripheral intravenous cannulation is a technique in which the understanding skin is punctured with a needle to permit insertion of a short interim device typically into the veins of the lower arm or hand (albeit different locales can be utilized) to manage intravenous liquids or meds (Aziz A. , 2009). For disease aversion systems to be effective, all medical attendants must include in

actualizing methodology that will reduce the danger. Awareness and observation of the peripheral intravenous cannulation and restricted tissues are vital for assurance of any signi cant changes identi ed and responding properly, to reduce the risk of inconveniences. In the event that manifestations of phlebitis are available or when the intravenous line is not living up to potentials suitable, then the device must be displaced and supplanted promptly; it must be jusresisted if the clinical requirement for PVC remains. To help this, the peripheral intravenous cannulation must be dressed with a straightforward dressing which permit to investigate the site of line. The site dressing ought to be sterile; non-sterile tape should not have utilized as a part of cannulation site. Proper application of dressing must be implemented that will keep the PIC safe and minimize the danger of phlebitis; if the dressing gets to be sodden or unattached dressing ought to be evacuated and changed. The RCN (2010) and HPS (2012) prescribe that PIC locales are checked in any event all the time and it is likewise suggested as essential that the site is seen amid mixture of medications, when intravenous uid packs are changed or when dribble ow rates are checked. (Royal College of Nursing, 2010)

Assign nurses furnished with the obliged information on peripheral intravenous line care. Survey the information of nurses and all persons who are included in management of IV line. Disease and phlebitis are of essential concern (Royal College of Nursing, 2010) Educate so enlisted nurses are assure about their understanding and abilities identified with the administration of Peripheral intravenous cannulation are progressive and confirmation positioned so as to decrease the complications connected with this method .Phlebitis is the irritation of a vein, or all the more particularly its inner covering, by the tunica intima Phlebitis is encouraged mechanical, chemical or mechanical reasons (Higginson, 2010). Reduce the quantity of deeds for cannulation as expanded cut locales

builds the danger of contamination. The methods suggest that intravenous catheter must to be evacuated or substituted each 72- 96 hours to maintain a strategic distance from inconvenience Many of the studies analyzed the short-term substitution of IV organization sets and record demonstrated that, supplanting organization sets inside 72-96 hours is safe and financially profitable(Aziz A., 2009)

3.2) Care and Maintenance of Intravenous Peripheral Catheter

1. Education of patients and health professionals:

Educate and train all health professionals associated with IV therapy with the necessary skills to anticipate problems and take actions to prevent them occurring

Ensure regular and comprehensive training programs with theoretical and practical elements are given to nurses for safe and effective practices and skills kept up-to-date throughout their practice life-time (Trim, 2005).

2. Hand hygiene:

Stick to hand cleanliness all through the cannula consideration as per nearby/doctor's facility strategy (Ingram P. a., 2009). To enhance consistence with hand cleanliness, human services experts and medical caretakers specifically are urged to test poor hand cleanliness rehearses (Morris W. a., (2008) Utilize new or clean sterile gloves before taking care of, embedding's and changing dressing of fringe IV catheter(Aziz A., 2009)

3. Aseptic technique:

Keep up aseptic method when planning, regulating and all further controls of the IV framework to decrease disease. Utilize aseptic non- touch strategy to guarantee key parts are kept sterile (Ingram. and Murdoch, 2009). Wear clean or sterile gloves when changing the IV dressing.

Catheter-site dressing:

Use straightforward dressing in light of the fact that it allows ceaseless visual review of the catheter insertion site for any indications of phlebitis (Tay., 2008). Supplant dressings when free, wet or dirtied and screen site utilizing a phlebitis-scoring apparatus (Scales K. , 2008). Urge patients to report any adjustments in their catheter site or any uneasiness (Ingram P. a., 2009).

4. Replacement of administration sets and peripheral catheters:

Booked substitution of catheters is proposed as an intends to forestall phlebitis and catheter-related contaminations (Scales K. , 2008). To lessen inconvenience, the danger of phlebitis and catheter-related contamination, supplant fringe catheters locales at 72-hour interims.

Documentation

Record the date and time of insertion of the cannula since exact documentations exhibit better cannula care (Aziz A. , 2009). Mark IV hardware and liquid holders with date and time they are opened to guarantee they are changed suitably (Scales K. , 2008).

MATERIALS AND METHODS

Study design: A cross-sectional study will be done among nurses at Multan Institute of Kidney Diseases, from February 2015 to June 2015. 14

3.2) Sample method

Convenient sampling method,

3.3) Study Population:

105 Health care personnel working in all shifts medical and surgical department on rotation basis in Multan Institute of Kidney Diseases.

3.7) Inclusion Criteria:

All registered Nurse, who have job at Multan Institute Of Kidney diseases And they have given the willingness for participating in this study. Age 20-50yr. Experience more than 2 years.

3.8) Exclusion Criteria:

All other health care staff who are not involve in vein puncture procedure care. Has not shown willingness for participating in this study. Age less than 20 or more than 50 years.

3.9) Instrument:

A set of structured questionnaire was developed for collection of information.

Table 1. Maintaining aseptic technique only during insertion of IV cannula replacement it will help to prevent infection occur

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid YES	72	67.3	84.7	84.7
NO	13	12.1	15.3	100.0
Total	85	79.4	100.0	
Missing System	22	20.6		
Total	107	100.0		

Table 2. Barrier encountered in caring and maintaining of peripheral IV cannulation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Uncooperated patient	25	23.4	29.4	29.4
Give too strong medication make the vein easy block	47	43.9	55.3	84.7
Small vein prone to blockage and damage	13	12.1	15.3	100.0
Total	85	79.4	100.0	
Missing System	22	20.6		
Total	107	100.0		

RECOMMENDATION

Nurses should be aware and have knowledge that, how to handle the procedure in a proper manner. If possible nurses need to be trained or conduct courses on care and maintenance of IV cannula. The importance of educating and training nurses in the preparation, administration and management of peripheral intravenous therapy. For infection prevention procedures to be successful, all nurses are involved in implementing procedures that are aimed at reducing the risk. Designate nurses should be equipped with the required

knowledge on IV therapy to prevent infection occurring and effective practices and skills keep themselves up-to-date throughout their life time practice.

Give patients the appropriate education and empower patients to take responsibility of their care. Get consent from patients and give comprehensive explanation of the procedure, including its indications and contraindications.

Prepare a special room for insertion of IV cannula. So in future, all health care setting may need to provide each ward a room for IV cannula insertion and no more at patient bedside. They need to set one rule so that everybody will follow same direction.

Finally, those patient who need strong medication that make the vein prone to occlude, maybe the doctor need to consider to set a big line for instance, insert at central vein or so called" Central Venous Line (CVL). This can prevent occlusion happen and reduce number of puncturing to patient's vein thus reduce risk of infection.

CONCLUSION

From this study, almost all nurses in Multan Institute Of Kidney Diseases have the knowledge towards caring and maintaining of peripheral IV cannulation but there are nurses still did not know yet about this procedure. Most of the respondents still new in this field, so their knowledge and experience dealing towards IV cannulation is not so good yet. Their knowledge towards care and maintenance of IV cannula is very limited and they not really sure certain bacteria like Staphylococcus Aureus can cause peripheral intravenous infection although it rarely happens.

Nurses must have enough knowledge towards caring and maintaining IV cannula because of its risk or complications could endanger patient's life. Attending special training or

courses is one of the ways to enhance their knowledge and confidence. Hence, the management of this institution must take corrective action and implement new strategy so that nurses and patients will get the benefits of it.

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