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A STUDY TO ASSESS THE KNOWLEDGE ABOUT INFUSION THERAPY AMONG NEURONURSES.

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ABSTRACT

Intravenous therapy presents a potential risk to patient safety, with associated risks varying from minor complications to death. The number of patients who require IV therapy is increasing, because more patients are acutely ill and also because of changes in prescribing patterns. **Objectives**: (1) To identify knowledge about infusion therapy among Neuro – nurses, (2) To find out knowledge about infusion therapy and to prepare a protocoal for infusion therapy. (3) To find out association between knowledge about infusion therapy and selected variables.

KEYWORDS: Intravenous therapy, Neuro–nurses.

METHODS

38 Neuro nurses were purposely selected from NSICU, NMICU, NMWRD and NSWRD of St. Martin De Porres Hospital. Consecutive sampling technique was used for selecting the sample. Total period of the study was 01.09.2016 to 30.09.2016. A validated questionnaire was used, mostly in the form of multiple choices.

The nurse practicing in today's world is faced with a myriad of duties and responsibilities involving specialized skills and techniques. She is answerable for all decisions and performances associated with the delivery of a safe level of care (Josephson, 2003). Core clinical skills; include the preparation and administration of intravenous drugs, peripheral venous access, acute and long terms central venous access and pediatric intravenous therapy

(Dougherty et al,1999).[1] Staff must be competent in the use of devices and update their knowledge and skills through regular review and assessment of competence (Carlisle et al 1996, NMC 2004a).[2] Safe administration of intravenous fluid requires the nurse to understand the role of electrolytes and water in the body, the mechanism for movements between different body compartments and how the fluid balance is maintained (Hand, 2001). The metabolic process of the body depend on adequate supplies of water and electrolytes. Infusion therapy is one of the major responsibility the nurse faces in her day - to – day practice of nursing and is an area that is continually expanding "Infusion nursing should be defined as the utilization of the nursing process as it relates to the following: technology and clinical application, fluid and electrolyte balance, pharmacology, infection control, pediatrics, transfusion therapy, anti neoplastic therapy, parenteral nutrition, and quality assurance/performance improvement" (Josephson, 2003). The goal of the fluid therapy is to maintain tissue perfusion (Hickey, 2007)[3]

TABLE: 1 The history of intravenous therapy excluding blood transfusion.

1656	First intravenous injection in an animal.	Sir Christopher Wren, London architect of Saint Paul's cathedral describes 'a way to convey liquid poison into the mass of blood'
1662	First intravenous injection in humans	Johann D. Major, a German graduate of Padua University injected an un purified compound into a man's vein.
1830	First intravenous use of water	Herman and Jaehnichen, Russians physicians desperate in the face of cholera.
1833	First successful saline infusion	Dr Thomas Latta's in 25 patients.
1834	First use of intravenous albumin	John Mackintosh, Scottish physician and student of Latta.
1876	Ringer's solution introduced	Sydney Ringer, one of the clinical pharamacologists was the first to observe the different physiological effects of various electrolytes.
1969	TPN	Stanley Dudrick, experiments with IV hyperalimenation

Barsoum and Kleeman (2002)[4] reviewed the evolution of parenteral fluid and transfusion therapy. Some of the salient landmarks from this review are shown in Table – 1.

Infusion therapy is now an integral part of professional practice for the majority of nurses. Nursing involvement ranges from caring for an individual with a peripheral cannula in situ, to nursing a patient with multiple parenteral and haemodynamic therapies in the critical care environment. Whatever the route, peripheral or central, infusion therapy is not without risk

(Gabriel et al., 2005; Scales, 2008). Infusion nursing is not limited just to the care of the patient and the device. Increasingly nurses are responsible for the insertion and removal of the device and are also often responsible for procurement of the consumables associated with infusion therapy. Patient assessment is not just about identifying the most suitable vein in which to site an IV cannula. It should start by identifying what medications the patient will require for their clinical needs and by what route(s) they can be administered. If the intravenous route is required, account should be taken of how long the treatment is intended to last, whether the drugs or infusates are vesicant, how frequently and what volumes are to be infused, and whether the treatment will be administered in hospital or at home. The NMC's Code (2008) clearly states that individual nurses have a responsibility to deliver evidence-based care. Patients have the right to receive a uniformly high standard of care, regardless of who they are and where they are treated (DH, 2000b). Research should be employed to expand the base of nursing knowledge in infusion therpy, to validate and improve practice, to advance professional accountability, and to enhance decision – making (INS, 2006). Where appropriate, nurses should actively participate in infusion therapy research activities that are relevant to their job responsibilities, education, experience and practice setting (INS, 2006).

Continuous infusion may be to correct dehydration or an electrolyte imbalance, to deliver medications or for blood transfusions. The commonly used crystalloid fluid is normal saline, Ringers lactate or Ringers acetate is another isotonic solution often used for large – volume fluid replacement 5% Dextrose solution is used instead if the patient is at risk for having low blood suger or high sodium (Martin, external links). NS is typically the firs fluid used when hypovolemia is severe enough to threaten the adequacy of blood circulation and has long been belived to be the safest fluid to give quickly in the large columes. Rapid infusion of NS can cause metabolic acidosis (Bidani and Prough, 1999)[6]. The nursing assessment data also help the physician institute early therapy for imbalances. Maintenance of vigilant attitude is necessary when caring for patients who are at high risk for fluid and electrolyte imbalances. Such patients include, (Pandya 2007)[5]

- Confused or unconscious patients who are unable to react to normal stimuli for replenishing water and electrolyte losses.
- Patients with conditions that increase insensible water loss, such as fever, hyperventilation, incontinence and diarrhea, and those on mechanical ventilation which also increases insensible water loss.

- Patients with damage to the area surrounding the hypothalamus, which can result in abnormal secretion of ADH.
- Patients undergoing therapy with such drugs as hyperosmolar solutions, diurectics, and steroids and those receiving hyperosmolar tube feedings.

Intravenous therapy presents a potential risk to patient safety, with associated risks varying from minor complications to death. The number of patients who require IV therapy is increasing, because more patients are actuely ill and also because of changes in prescribing patterns (Ingram and Lavery, 2005).[7]

METHODOLOGY

This is a descriptive survey of nursing staff. The investigator first assesses the knowledge about infusion therapy among neuro nurses with a standardized questionnaire. The total duration of assessment is 10 minutes. Fifty nursing staff will be selected for the study. The duration of the study is from September.

The sample was selected from the nursing staff working in. The size of the sample was fifty. Sampling technique refers to process of selecting portion of nursing staff. In order to get a representation sample, purposive sampling technique was used for the present study. First prepared the master checklist of the nursing staff in order of the duty roster Samples were taken from Neuro Surgical Intensive care Unit, Neuro surgical ward, Neuro medical Intensive Care Unit and Neuro Medical Ward.

INCLUSION CRITERIA

Nursing staff working in Intensive Care Units and Wards of St. Martin De Porres Hospital.

EXCLUSION CRITERIA

Nursing staff's working in Operation Theater, other departments, Central sterile supply departments.

DEVELOPMENT OF DATA COLLECTION TOOL

Data collection tool refers to instruments, which was constructed to obtain relevant data. An extensive review and study of literature and journal articles helped in preparing items for the tool. The investigator used Questionnaire as tool for the study Experts in St. Martin De Porres Hospital, approved the tool

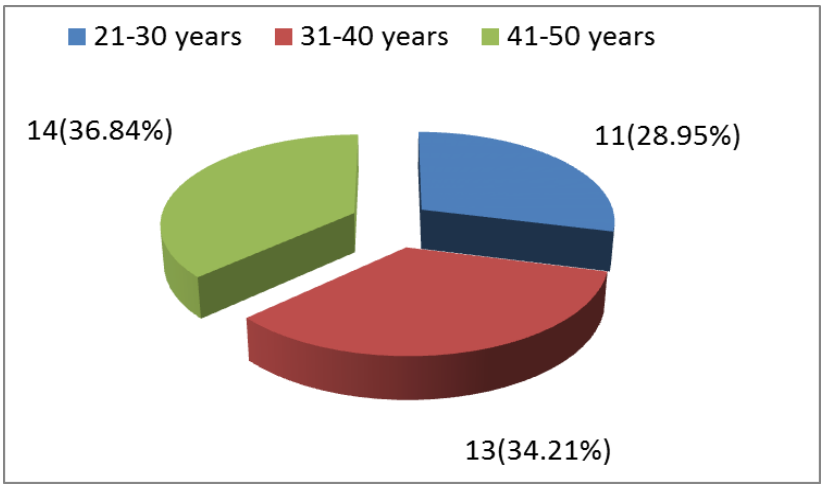

Fig: 2 The pie diagram showing the distribution of samples according to age category.

CONCLUSION

Infusion therapy is know an integral part of the majority of nurses professional practive (RCN, 2006), As nurses, we are responsible for maintaining our skills and knowledge in relation to all aspects of patient care (RCN, 2006). Although there are many complications associated with vascular assess devices (Docherty, 2006)[8]. Infection is one of the most serious complications that can result from the presence and use of a central venous catheter (Humar et al, 2000), however careful management of these devices can minimize the complications associated with infusion therapy. It is a complex process usually requiring the preparation of the medicine in the clinical areas before administration to the patient. Administration errors involving continuous IV infusion occur frequently. They could be reduced by more common use of infusion control devices and regular checking of administration rates.

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