Assuring quality nursing care in prevention and management of Peripheral Intravenous Infiltration and Extravasation for neonatal and paediatric wards setting

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Introduction
Neonatal and paediatric group of patients are particularly in higher risk of IV infiltration or extravasation due to contributing factors, such as, active children and difficulty in secured cannula, small and fragile veins, unable to communicate, infusing concentrated vesicant drugs and hypertonic solutions, just to name a few. It is crucial that vigilant observation, identification of signs and symptoms and early intervention can prevent serious adverse outcome (Doellman, 2009; Schoolmaster, 2011). In 2013, the guidelines on Prevention and Management of peripheral IV infiltration & extravasation in Neonatal and Paediatric Patients were developed by a multidisciplinary team in the department of Paediatrics and Adolescent Medicine (PAM) of QMH. It covered key medical and nursing aspects when managing a peripheral IV site, namely, the standard of care practice, how to prevent IV infiltration/extravasation, staging of IV extravasation, initial management when incidents occurred, how to the administer antidotes- Hyaluronidase, proper documentation, the wound management strategies and incidents reporting. To make sure that all the nurses of neonatal and paediatric wards at Department of PAM complied with the standards of this guideline, a systematic implementation program was conducted.

Objectives
☐ Enhance knowledge in IV safety and the standard of practice among nurses and health care assistants
☐ Ensure staff compliance in caring of neonates and children with peripheral IV site
☐ Nil severe IV infiltration /extravasation incidents (stage 3 or above) occurred at all the time
**Methodology**

1. Develop algorithm of the guideline for staff's easy reference.
2. Discuss with Wound nurse and standardize the management of extravasated wound.
3. Set up resource nursing teams to prepare training materials, run train-the-trainer session (video & face-to-face briefing on the guidelines) and monitor the implementation process.
4. Perform pre & post training tests for nurses and HCA respectively.
5. Liaise with clinical pharmacist to prepare extravasation kit.
6. Educate parents of hospitalized infants and children with a peripheral IV site to know how to seek help if they have queries of IV infiltration occurred. Parents' info.
7. Place standardize reference booklet in different wards.
8. Monitor and evaluate all the severe incidents of IV infiltration/extravasation immediate after the incidents.

**Result**

1. Result of pre & post test result demonstrated the enhancement in staff knowledge, the quiz scores were in a significant rise (average 83% questions answer correctly v.s. 93%).
2. Since 2013 till now, there was no severe peripheral IV infiltration/extravasation (stage 3 or 4) incident occurred in all 7 wards of PAM.
3. Only three borderline cases including one neonate and two children with Stage 2 IV extravasation received Hyaluronidase to the affected area promptly, wound healed without complications.