An Evidenced-Based Protocol for Eliminating Errors associated with Intravenous Medication Errors

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Objective

The main objective of this project is to develop an evidenced-based protocol for the preparation, administration, and monitoring of intravenous medications at a large urban teaching hospital.

Introduction

While there is no concrete unanimous data regarding error rates with intravenous medications, research studies have shown that error rates on inpatient hospital units ranges from 44.8 percent (Ohashi, Dykes, Bates, McIntosh, Bates, Buckley, Wien, 2013) to 69.7 percent (Westbrook, Rob, Woods, Perry, 2017). Intravenous medication administration is one of the most common tasks that nurses perform on a daily basis, with almost every patient on an inpatient unit receiving some form of intravenous medication. Although some of these medications may seem harmless, such as normal saline, they can all be fatal in certain situations. The WHO (2014) that found that intravenous medication errors account for 85 percent of all fatalities that are caused by medication errors. These medication errors can have many causes, some being very basic, and some being more complex. Intravenous medication errors can have many different causes: Buckley, Bates, and Wien (2013) describes these errors being causes by one of many problems, such as, labeling errors, patient identification errors, pump handling or programming errors, missed dose errors or unauthorized medication errors. ‘Nurses’ perceptions of why medication errors occurred included pharmacists’ medication orders are not clear, the names of many medications are similar, pharmacy did not label the medication correctly, poor communication, lack of staff medication orders are not clear, the names of many medications are similar, pharmacy did not label the medication correctly, poor communication, lack of staff

Intravenous Error Causes

- Wrong Infusion / Bulla Rate
- Not Disinfecting Vials / Tubing Outlets
- Not Wearing Gloves
- Not Monitoring for Reactions
- Using Wrong Amount of Diluent
- Not Monitoring For Reactions
- Not Wearing Gloves
- Not Disinfecting Vials / Tubing Outlets

Protocol

Our literature consisted of numerous type of articles, with the total number of articles coming to 32. 28 of these articles were quantitative in nature and 4 of these articles were qualitative in nature. The Evidence Grading System used assigns levels to evidence regarding the effectiveness of an intervention. The hierarchy ranges from level Ia, which is the strongest evidence, to level VII as the weakest evidence. The authors utilized research from levels Ib, Ib, IV-V, and VII on the Evidence Grading System to support the developed protocol. Level Ib consists of systematic reviews of randomized trials. Level Ib consists of single randomized trials. Level IV consists of a single correlational or observational study. Level V includes systematic reviews of descriptive, qualitative, or physiologic studies. Level VI involves single descriptive, qualitative, or physiologic studies.

Advantages

- Minimizes the potential for various medication errors that can range from mislabeled information, to wrong dosage being given, to not monitoring the patient after medication is given.
- Also protects the nurse and the hospital from possible consequences of medication error and injuries to patients.
- Could increase the chances of patients receiving their scheduled medications during an improper time, which is a medication error in itself.