Paediatric and Neonatal Medication Errors

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A Position Statement by the Paediatric Nursing Associations of Europe (PNAE)

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Scope

- The purpose of this position statement is to identify key concepts concerning medication errors in children, to describe the current status or reporting systems in European level and to share measures aimed at reducing medication errors among different European countries.

Introduction

- Patient safety has become the preeminent issue for health care.
- The prescribing, dispensing, and administration of medications represent a substantial portion of the preventable medical errors that occur with children and that children are more at risk for medication errors than adults.
- The Paediatric Nursing Associations of Europe Network (PNAE) conducted a survey throughout 2009. The aim was to identify common practise concerning medication errors among different European countries and to share measures aimed at reducing medication errors.

Background

- Potential adverse drug events due to medication errors occur up to three times more frequently in paediatric than in adult wards. (Miller, Robinson, Lubomski, Rinke, Pronovost, 2007).
- Medication errors may result in morbidity, mortality, increased monitoring and cost of care, and delayed hospital discharge. Nurses are the key participants in the preparation and administration of medication.
- During their training, nurses are taught the Six Rights of medication administration, which are: giving the right medication in the right dose at the right time via the right route to the right patient with the right documentation (Raja Lope, Boo, Rohana, Cheah, 2009).
- Nevertheless, medication errors are a multidisciplinary problem and a multidisciplinary approach is required in order to reduce the incidence of errors. Interdisciplinary collaboration is required for a rationalism of medicine errors through the creation of a new frame of health systems' operation and continuous education. (O'Shea, 1999).

Background

- Looking at error reporting systems, it is clear that each step of the medication process is error prone, although the majority of research has focused on prescribing errors.
- Each step (prescribing 3–37%, dispensing 5–58%, administering 72–75%, and documentation 17–21%) contributes to the overall rate of medication errors among children (King et al, 2003; Frey et al, 2002).
- Literature acknowledges that both active failures and latent conditions remain prevalent. Active failures often display themselves in the form of incorrect drug calculations, lack of individual knowledge, and failure to follow established protocol.
- Latent conditions are evidenced as time pressures, fatigue, understaffing, inexperience, design deficiencies, and inadequate equipment (Carlton, Blegen, 2006).

Background

- Nowadays, medication error research has shifted in emphasis toward identification of system problems inherent in error occurrence with emphasis placed on more dependable reporting measures through which nurses are not threatened by reprisal (Carlton, Blegen, 2006).
- The vast majority of errors result in no harm, or have only very minimal temporary effects.
- These types of errors represent very important opportunities to identify systems' weaknesses and institute improvements before serious harm occurs.
- There is a need for a National System of report that would make possible the recording and analysis of errors.
- Open reporting of medication errors must be encouraged since voluntary error reporting is at the heart of any safety improvement strategy (National Patient Safety Agency, 2007).

Definition of errors

- Medication errors are defined as "any preventable event that may cause or lead to an inappropriate medication use or patient harm while in the control of the health care professional, patient or consumer" (NPSA, 2005).

- Such events may be related to professional practice, health-care products, procedures and systems, including prescribing; order communication; product labelling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring and use'.

- Key areas encompassed within the survey included gathering information about
  - Reporting and recording systems
  - Factors influencing the reporting of medication errors
  - Measures taken to reduce medication errors

Reporting and recording systems

- The survey found that some countries had introduced a national recording and reporting system.
- These included the Switzerland and the United Kingdom.
- Countries like Belgium reported that a system was currently under development.
- Other countries reported that individual hospitals had a reporting system in place.

Factors influencing reporting of medication errors

- **See Appendix 1**

1. Anonymity
2. Awareness of reporting mechanisms
3. Blame culture
4. Concerns re penalisation for reporting
5. Ease of reporting mechanisms
6. Education level of nurses
7. Hospital policies
8. Patient harm
9. Patient safety focus
10. Recognition of drug error including what constitutes a medication error
11. Responsibility level of nurses
12. Workload and staffing levels

- **PNAE members to discuss and rank what they consider to be the top 3 are in Appendix 1 (which we then cite here)**

Reducing medication errors

- See Appendix 2

- Have been
- limited to 30

1. Standards for drug and infusion storage
2. Standards for drug and infusion preparation
3. Standards for drug and infusion sustenance
4. Policies and protocols for single and double checking
5. Different levels of control before the drug administration
6. Drug documentation by two nurses
7. Systematic control of expiry date
8. Different coloured syringes for IV and oral medications
9. Training for use of infusion devices
10. Streamlining type of infusion devices used within hospital settings
11. Control of home medication (parents will bring them to the hospitals)
12. Barcode Medication Administration System
13. Checklists for medication administration
14. PICU-specific, high-alert medications list
15. Identification of all drug prepared for the children
16. Improvements in labelling and packaging of medication
17. Bracelet identification and systematic control right patient
18. Introduction of single use medication devices, safer connection devices
19. Alert system - electronic administration
20. Wearing of red tabard to reduce interruptions and distractions
21. Paediatric prescription awareness
22. Medication audit trails
23. Drug preparation by specialists (Ward and unit based pharmacists)
24. Evaluation of health professionals' ability to calculate doses
25. Creation of learning organisation culture
26. Education and training (specific education for nurses caring for neonates and children)
27. National/International alerts, directives, tools and guidance
28. Posters to educate patients and visitors not to interrupt the nurse when preparing or administer drugs
29. Safety conferences
30. National record of drug effects

PNAE members to discuss and rank what the top measures are from Appendix 2 (which we can then cite here)

End note

This document represents a consensus position of the organisations representing paediatric nurses across many European countries (PNAE*). PNAE strongly recommends that all European countries should give consideration to these findings and they can use them for implementation.

(http://www.rcn.org.uk/development/communities/specialisms/children_and_young_people/forums/other_forums_and_groups/paediatric_nursing_associations_of_europe).

Useful websites for further information include:

http://www.npsa.nhs.uk/nrls/medication-zone/
www.nmc-uk.org
www.rcn.org.uk

Key stakeholders

Professional nursing association/organisation in each member state
EU and individual governments of member states
EFN
FePI
HOPE

Date agreed to be added

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Thank you
for your attention!
Feedback Deadline
31st March 2011