FOCUS ON ERROR PREVENTION

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PEDIATRIC PATIENTS ARE EXPOSED TO GREATER RISK OF MEDICATION ERROR OCCURRENCE WITH INCREASED POTENTIAL FOR HARM.

Factors placing pediatric patients at increased risk include:

1. Need for calculation of individualized doses based on the child's age, weight and indication for use of the medication.
2. Need for precise dosage measurements, especially in neonates.
3. Lack of available dosage forms and concentrations appropriate for administration to infants and children.
4. Dosage formulations are often extemporaneously compounded and lack stability, compatibility or bioavailability data.
5. Incomplete development of infants body organs and their defense systems.

Extra care must therefore be taken to ensure that all aspects of the drug being dispensed are appropriate for the pediatric patient.

CASE:

Rx: Amoxicillin
Dose: 500mg
Route/Frequency: by mouth three times daily
Dispense: 10 days

The above computer generated prescription was given to the parent of a six month old patient. The child's mother took the prescription to her local community pharmacy for processing.

The pharmacy assistant failed to note the age and weight of the patient. She therefore entered into the computer, amoxicillin 500mg capsules to be taken three times daily for ten days. The 500mg capsules were prepared and labelled appropriately for checking by the pharmacist.

Upon checking the prescription, the pharmacist identified the inappropriate dosage form for a six month old patient. He also obtained the child's weight from the parent and determined that a daily dose of 1500mg amoxicillin would be inappropriate for the six month old child.

The prescriber was contacted to clarify/confirm the dose and indication for use. The physician explained that he intended to prescribe 500mg as the total daily dose and not each individual dose. The prescription was therefore changed to 167mg three times daily.

POSSIBLE CONTRIBUTING FACTORS:

- The computer generated prescription provided the dose in an ambiguous manner. The system software provided the total daily dose. However, the printed prescription indicated "dose" and not "total daily dose".
- The total daily dose of 500mg is commonly prescribed as a single dose. Hence, the pharmacy assistant did not readily identify the computer entry error.

- The pharmacy assistant failed to notice the child's age and failed to collect and record the child's weight when the prescription was presented by the parent.

RECOMMENDATIONS:

- Though computer generated prescriptions can minimize medication errors due to illegible handwriting, be aware that new types of errors may be introduced.
- Always contact the prescriber to clarify ambiguous prescriptions.
- Educate all staff on the benefit of using the patient's age to determine the appropriateness of the drug therapy.
- Always double check pediatric dosages for appropriateness. The child's weight should be collected and used to confirm the appropriateness of the prescribed dose on a mg/kg basis.
- Whenever possible, obtain the indication for use to determine the most appropriate dosage regimen.
- Educate the prescriber regarding the potential for error. Suggest the software vendor be contacted to change the prescription format.

Please continue to send reports of medication errors in confidence to Ian Stewart at: ian.stewart2@rogers.com. Please ensure that all identifying information (e.g. patient name, pharmacy name, healthcare provider name, etc.) are removed before submitting.

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