ADDED VALUE FROM AN INFORMATION AND COMMUNICATION TECHNOLOGY-ASSISTED INTERVENTION IN A TOTAL PARENTERAL UNIT OF A PAEDIATRIC HOSPITAL PHARMACY

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Introduction:
✓ Ready-to-use parenteral nutrition formulations are not available for preterm infants
✓ Need arises for customized parenteral nutrition formulations addressing infants and children
✓ Preparation of Total Parenteral Nutrition (TPN) formulations is an everyday practice for pharmacy departments of Pediatric Hospitals
✓ Ordering and Preparation of these formulations consist a time-consuming, complex and error-prone procedure

Aim: Identification of consequent benefits from integration of a new computerized method of ordering TPN formulations in combination with an automated (no touch) compounding device.

Method: Comparison of Previous vs Present procedure of prescribing, ordering and preparation of 12 per day (365 days/year) TPN formulations, in a 400-bed pediatric hospital.

Results:
✓ 35% in pharmacist’s implementation time for controlling and finalizing TPN prescriptions
✓ 80% in total preparation time spent at the compounding device
✓ Elimination of transcription step of the procedure
✓ Elimination/Reduction of transcription & calculation errors
✓ Legible doctor’s prescriptions are automatically transferred to the hospital pharmacy’s IS
✓ Doctors enter prescriptions at patients’ bedside
✓ Prescriptions available even on mobile phones through Quick Response Codes (QR)
✓ Production of appropriate labels identified by linear barcodes
✓ Integration of pharmaceutical patient record (kept at the hospital pharmacy’s IS) with the TPN record (kept at the compounding device’s IS)

Conclusions:
Application of computer technologies:
- Reassures faster and safer preparation of TPN formulations for neonates and pediatric patients
- Facilitates healthcare professionals to promptly review prescriptions
- Eliminates unnecessary and error-prone steps in the preparation procedure
- Establishes a more immediate and feasible communication between the hospital pharmacy and the actual point of care
- Saves crucial time for healthcare professionals
- Supports a more efficient reorganization of all tasks taking place in the hospital pharmacy
- Enables the essential information exchange since all the available information is incorporated into pharmaceutical patient record

References:

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