5PSQ-118

INTELLIGENT INFUSION PUMPS FOR CYTOSTATIC DRUG DELIVERY: DEVELOPMENT OF A DRUG LIBRARY AND FIRST STEPS OF IMPLEMENTATION

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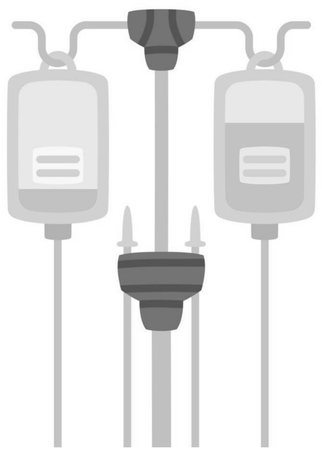
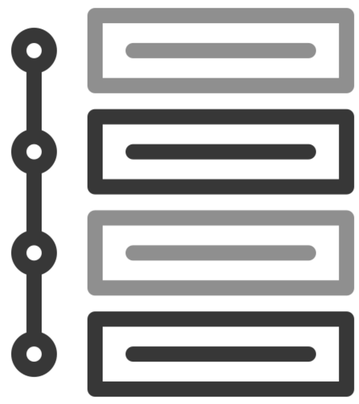
BACKGROUND AND IMPORTANCE

Incorporation of smart infusion pump technology allows the incorporation of medication error reduction software that includes a drug library.



AIM AND OBJECTIVES

Design and implement a **drug library** for the administration of intravenous **oncohaematological treatments** in an oncohaematology day hospital (HDO) for its incorporation into the software of the **intelligent pumps** and to carry out initial monitoring.



MATERIALS AND METHODS

Multidisciplinary Team
- Pharmacists
- IT staff
- Nurses

Pre-Intervention phase:
Installation, drug library design and staff training

Intervention phase:
Implementation of the software, monitoring of alerts and modification of alerts

- Software was initially installed on 2 pumps and upgraded weekly to full **27 pumps.**
- **Plum 360 15.1x®** pumps with Hospira MedNet® software were used.
- Maximum speed allowed by the pump: **999mL/h.**

RESULTS

Pre-Intervention phase
Drug library creation

1. *Maximum possible dose was calculated for a body surface area of 2m2 or 100kg*
2. *The rates (mL/h) for the relative upper limits (RUL) were defined*
3. *Absolute upper limit (UL) was calculated by adding 1% to the RSL.*
4. *Lower limits only for: vinblastina, vincristina, epirubicina, bendamustina, etoposido, mtx*
5. *General entrance premedication and undefined entrance (contingency)*

- **Intervention phase**
Monitoring

Detection 85 alerts: 47 LSA, 38 RSL and 0 lower limits
60 (70.5%) due to inadequate input selection
25 (29.5%) by strict limits → limit modification

Final pharmacoteca: 87 entries composed of 58 drugs.

Total of 2,701 infusions. 263 (9.7%) were performed without drug definition.

CONCLUSION AND RELEVANCE

Most of the alerts were caused by inappropriate use of the pharmacoteca, so training of nursing staff was reinforced. The implementation was considered successful, and its monitoring has made it possible to establish corrective measures and contribute to increasing patient safety.

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