Parenteral drug compounding and its administration carries potential risks for patients. Safe handling procedures avoid healthcare workers exposure to hazardous drugs. Compounding preparations in a Centralized Intravenous Additive Service (CIVAS) could minimize both risks.

We conducted this study to assess patients and healthcare workers risk reduction by centralizing parenteral preparations in a CIVAS compared to clinical areas (CA).

Methods


Inclusion criteria

- Inpatient parenteral preparations for CA (except Critical Care, Emergency Room and Neonatal Unit)
- Outpatient preparations

Variables

- Compounding area (CIVAS/CA)
- Number and type of preparation [fluid (F), parenteral nutrition (PN) or parenteral drug (PD)]
- Type of admixture (standardized/individualized)
- Risk level for patients (high/medium/low)
- Hazardous level for healthcare workers (hazardous/non-hazardous).

Results

Total number of preparations 322.693

CIVAS coverage 248.254 (77%)

By type of preparation

- F 26,9%
- PN 5,1%
- PD 78%

By type of admixture

- Standardized 64%
- Individualized 36%

By type of preparation and admixture

- PD 71,3%
- F 97,3%
- PN 100%
- Individualized 91%
- Standardized 69,1%

Risk level for patients

- Low 72,2%
- Medium-high 89,6%

Hazardous level for workers

- Non-hazardous 99,9%
- Hazardous 75,7%

Conclusions

Compounding in a CIVAS provides coverage of 77% parenteral preparations. Higher patient risk reduction and staff protection standards are provided by avoiding elaboration of 89.6% of medium-high risk preparations and 99.9% of parenteral hazardous drugs in clinical areas.