

PHARMACISTS' INTERVENTIONS BEFORE AND AFTER THE USE OF A CLINICAL DECISION SUPPORT TOOL TO DETECT DRUG RELATED PROBLEMS.

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Background and importance

Drug related problems (DRP) and medication adverse events are present in hospitalized patients. **Computer provider order entry (CPOE) systems with clinical decision support systems (CDSS)** are a key process for pharmacist's routine prescription validation to improve medication prescribing and patient's safety.

Aim and objectives

To evaluate the type and number of pharmacists' interventions (PI) before and after the use of a CDSS tool added to the CPOE system.

Material and methods

Retrospective, observational study carried out in a 300-beds hospital between January 2019-May 2020.

Data collected: DRG type, PI, detection method.

- **First period (January–August 2019):** pharmacist validation using CPOE and electronic health record (EHR) was performed.

CDSS was introduced in August 2019. CDSS includes drug information related to dose adjustment according to renal function, monitoring of analytic parameters susceptible of being altered by the drug, drug-drug/drug-food interactions that is continuously updated by pharmacists. When EHR and CPOE containing demographic, anthropometric and clinical data of the patient as well as pharmacological treatment are integrated with CDSS, generate alerts (potential DRP) at real time that are evaluated by pharmacists. When the alerts are considered relevant, pharmacists write a PI in patient's chart.

- **Second period (August 2019 –May 2020):** CDSS alerts were available for prescription validation.

Results

- **First period:** 1574 PI.

- **Second period:** 1687 PI (1451 using the first period method and 236 using the CDSS alerts). The PI because of CDSS were about 14% of the total PI and their type and number comparing both periods is presented in table 1:

Table 1. Type and number of PI.

Type of PI	Second period n(%)	First period n(%)
Dose adjustment according to renal function	141(8.3)	8(0.5)
Recommendations about drug-drug or drug-food interactions	91(5.4)	1(0.06)
Monitoring of analytic parameters susceptible to being altered by the drug	17(1)	0

Conclusion and relevance

The number of PI made in the two periods was similar but the CDSS tool allowed pharmacists to detect some certain type of DRP that the only use of CPOE didn't permit.

Moreover, the use of this tool optimized the pharmacists' medical prescription review time and facilitated the PI registration task.

To increase CDSS usefulness it is necessary to increase the number of relevant alerts introduced in this application.

References and/or acknowledgments

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