

Study of the reduction in the rate of dispensing errors following the installation of an automated delivery robot



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Background

Automation and computerisation of the different steps and stages from the prescription to drug administration have decreased the drug iatrogenic risks. Meanwhile, it is important to analyse robotic preparation and delivery compare to manual ones.

Objectives

The present study aims at identifying and analysing any weakness of the robotic system before correcting them.

Materials and Methods

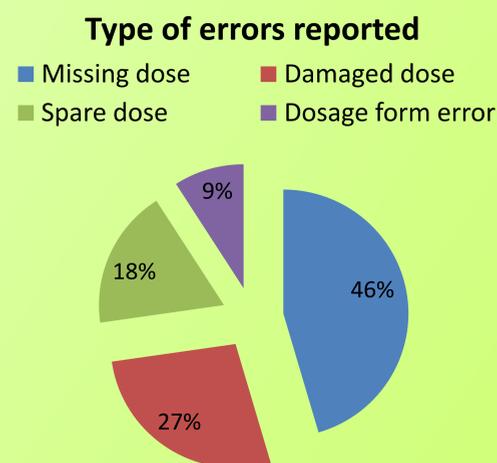
10 202 unit doses have been analysed by controlling the final containers and before sending them to care units: 9437 have been prepared by the robot while 765 have been manually prepared by the pharmaceutical team. Errors have therefore been divided in two groups: either robot-related or human-related.

Results

Among the 10 202 unit-doses prepared, 17 preparation errors have been reported (error rate: 0.16%). Four of them have been stopped by the pharmaceutical team adding manual complements with barcode readers.

	Unit-dose prepared	Error-reported	Error-rate (%)
Robot	9437	8	0,08
Manuel	765	5	0,65
Total	10202	13	0,13

Type of errors reported	Robot	Manual
Missing dose	5	0
Damaged dose	1	2
Spare dose	2	2
Dosage form error	0	1
Total	8	5



Conclusions

In the literature, the error rate of a manual preparation of prescriptions varies from 0.8% to 2.9%. In our hospital, a previous study has estimated it at 1%. Robotic production decreases by far the delivery's error rate and could be a good solution to enforce the law about the drug pathway's safety.

