IMPACT OF PHARMACEUTICAL INTERVENTIONS ON MEDICATION ERRORS IN PREPARATION OF CHEMOTHERAPY REGIMENS

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Background

The prescription and preparation of cytostatic drugs must be closely monitored as they are highly toxic and pose a serious health hazard if medication preparation errors occur.
Pharmaceutical intervention is a means of preventing medication preparation errors, especially in oncology.

Objectives

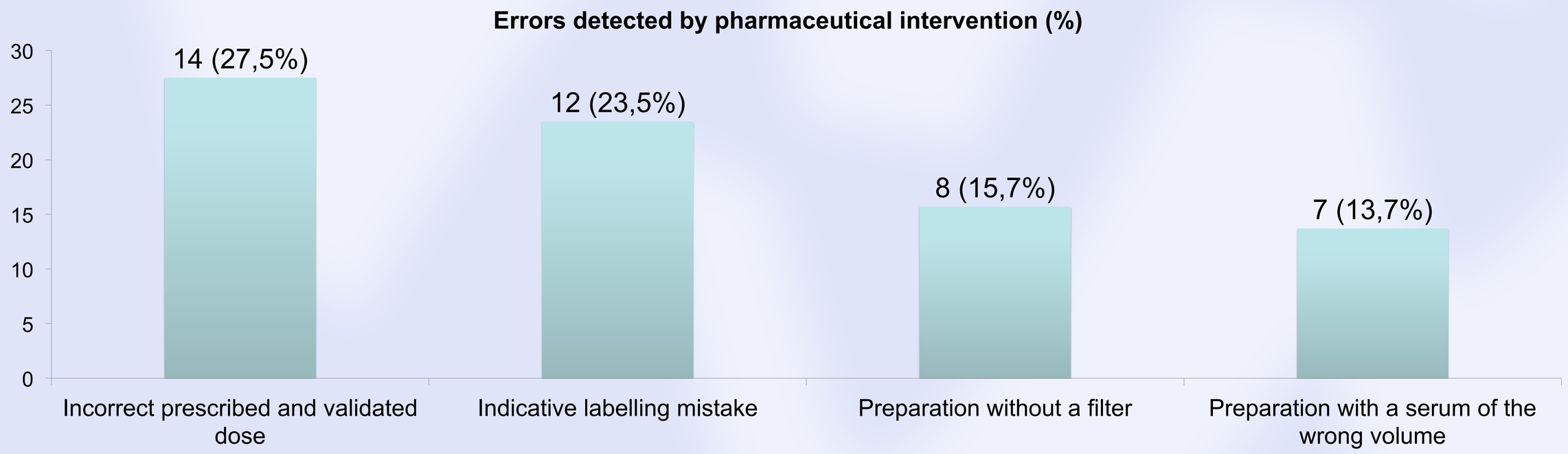
The main aims of this study were (i) to assess the residual risk of error, (ii) to determine the relevance of the pharmaceutical interventions within a complete revision of the preparation of chemotherapy and (iii) to estimate the clinical effects of this pharmaceutical service.

Methods

Prospective study carried out from 17 March 2014 to 30 September 2015 in a secondary hospital.
The pharmacist examined for all cytostatic preparations: (i) the correct medication, (ii) the dose, (iii) all the indicative labels, (iv) the correct serums and their volume and (v) the filter if it was warranted.
All errors were analyzed by a team of pharmacy technicians and pharmacists, and prevention actions were taken.
Pharmaceutical interventions were collected prospectively and their consequences were analyzed.

Results

Over the study period, 5517 consecutive preparations (for 223 patients) were examined prior to dispensing, which generated 51 pharmaceutical interventions (0.9%). 47% (24) of the interventions had a potentially significant clinical effect (27.5% (14) of the errors in cytostatic preparations were a problem of a prescribed and validated dose, of which 36% (5 of the 14) were a problem of incorrect initial loading dose, 7.8% (4) of mixing different drugs in the same preparation and 11.7% (6) were a protocol mistake). 23.5% (12) had an indicative labelling mistake, 15.7% (8) were prepared without a filter and 13.7% (7) were prepared with a serum of the wrong volume.



Conclusions

Our study showed that 0.9% of the prescriptions required action, a rate lower than those described with only the validation of the prescriptions (12%), demonstrating the efficiency of computerized prescribing and the pharmacist validation of chemotherapy. Also, it was a higher rate than those studies where errors were identified by pharmacy technicians performing quality control checks (0.45%).
In conclusion, the assessment of care practice and the critical, constructive analysis of the errors detected can be used to increase patient safety.

References

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