Study of tasks interruptions during the production of chemotherapies

M. Rouault[a], A. Sabri[a], A-F. Dumet[a], H. Gonde[a], C. Hervouët[a], A. Proux[b], J. Doucet[b], A. Coquard[a], R. Varin[a]
[a]Pharmacie à usage intérieur, CHU de Rouen (France) ; [b]Medecine interne polyvalente, CHU de Rouen (France)

Introduction

Task interruption (TI) is defined by the High Authority of Health (HAH) by the unexpected break, temporary or definitive of a human activity. The reason is specific to the operator, or, on the contrary, external to him. It induces a break in the course of the activity, a disturbance of the concentration of the operator and an alteration of the performance of the act.
They are socially perceived as normal functioning to which health professionals are accustomed and may be contributing factors to the occurrence of iatrogenic accidents.

The 2016 TI Guide HAH serves as a security tool that can be applied to the different stages of the drug circuit.

Objective

Study of the impact of task interruptions on the risk of avoidable error in the preparation of chemotherapies in a UCRC.

Materials & methods

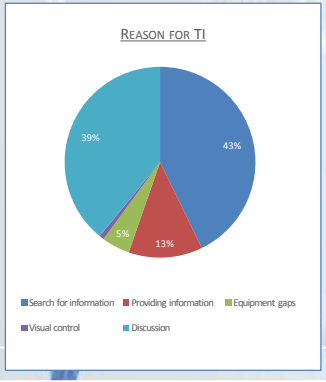
- Team of: 3.5 FTE preparers, 1.5 internal FTEs, 0.5 external FTEs.
- Mean activity: 17 000 anticancer preparations / year.
- Software used routinely: Chimio®
- Quantitative prospective observational study of TI follow-up from the pharmaceutical validation of the prescriptions to the delivery in the care services.
- Follow-up of the professional with an evaluation grid and collection of TI characteristics: circumstances, health professionals concerned, reason, severity, duration of each TI.

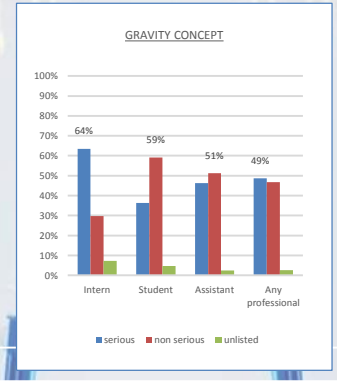
Résults

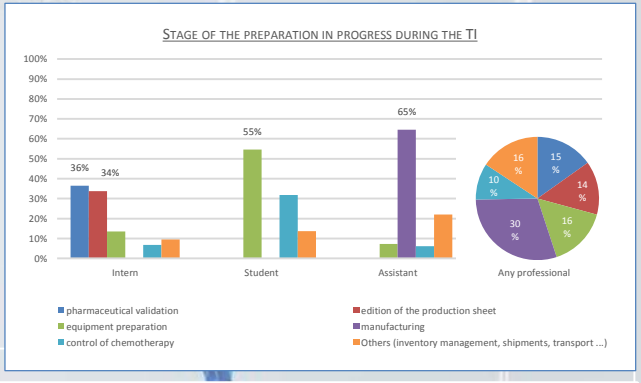
10 professionals were audited by 2 auditors over 6 mornings in February 2019 over a duration of 19.9 hours. A total of 178 TI were recorded on preparations made for 66 patients.
On average 9.37 TI / hour all professional confused were listed:
- intern: 70% during the pharmaceutical validation and the production sheet
- assistant: 65% during the manufacture of the pockets
- student: 87% during inspections and the production of chemotherapy preparations

For 84% of TI, it involves physical stop occurring in 60% of cases brutally. TI is caused exclusively by medical staff including 36% of auto-TI.
For 56% of cases, the reason for the TI consists of the input or search for information and in 39%, discussions.
The cumulative time spent on Tis was a total of 10 minutes per hour of work.
2 non-conformities of low severity have been reported (average delay in sending cures, lack of equipment ...)

	Intern	Sudent	Assistant	Any professional
Number of interrupts	74	22	82	178
Number of observations	4	2	7	13
Observed time(h)	6,33	2,42	11,18	19,93
Number of interruptions / observations	18,50	11	11,71	41,21
Average number of IT /h :	11,68	9,09	7,33	9,37
<30 s	*5,68*	*6,20*	*4,92*	*5,74*
30 s to 1 mn	*4,58*	*2,48*	*1,43*	*2,69*
> 1 mn	*1,42*	*0,41*	*0,98*	*0,94*
Total time spent on IT (min) on 1h of work	15	8	9	10







Discussion / Conclusion

Control of the chemotherapy preparation circuit is a major element in the fight against the risks of drug errors and personnel exposure to cytotoxic products.

By combining the results obtained with the risk mapping of the cytotoxic reconstitution units (CRU), a first report was made to make the whole team aware of the risks of errors (in 40% of the cases the TI concerned “discussions").
On average this study showed that a professional was interrupted every 6 minutes. In 56% of cases, this involved a contribution or an information search. For the intern TI was held in 36% of cases during the pharmaceutical validation.

Appropriate corrective measures were discussed and a working group was set up to continue to think about the management of these TIs (ex: an intern dedicated exclusively to the pharmaceutical and non-derangible validation, another one for the supervision of the preparations in the field...).

In view of the results, this study will be extended to other areas of pharmacy technology to improve our manufacturing circuit of other preparations.

References

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