EVALUATION OF INTERRUPTIONS DURING UNIT DOSE DRUG DISTRIBUTION SYSTEM IN AN HOSPITAL PHARMACY



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BACKGROUND

To improve quality and safety of care, multidisciplinary meetings are regularly conducted in order to retrospectively analyse undesirable events in care system. During one of these experience feedback committees, daily mistakes by pharmacists' assistants (PhA) when filling the trollies with drugs were reported. We formulated the hypothesis that disruptions in the work load may have led to them. In fact, many studies about interruptions (its) in nursing care are published. They indicate that interruptions are commonplace and lead to medication errors, particularly during medication administration. However, we noted that studies about its are limited in pharmacy.

OBJECTIVES

1. To evaluate quantity of PhA's IT during daily dispensation in unit-dose drug distribution system (UDDS). **2.** To understand the causes of ITs to avoid them better. **3.** To know PhA feeling's of ITs.

MATERIALS AND METHODS

We observed 6 out of 12 PhA for 20 hours of UDDS. We established an observation grid (one for each PhA observed) then, we collected PhA opinion through an anonymous questionnaire in order to know their feeling about ITs. PhA had been informed and asked for their consent. Note that the grid was tested twice and then modified.

Phone call	Distraction starting with the phone ringing, and interruption related to the need to respond.
Fax machine	Reception of a fax that induce the need to move to take it.
Pneumatic conveyor system	Reception of a cartridge which requires to move to stop the acute beep indicating its arrival
Conversation	Different discussions between the PhA and others. The conversation may concern work or not. Conversations cause the task to stop or may generate multitasking.
Doorbell or the	The entry of somebody in the room leads to distraction.
entrance of	Moreover, during the study an intercom was added to the
somebody	door. The bell thus causes a job interruption.
Other	Other causes of interruptions not previously described.

1) OBSERVATIONNAL GRID : TASK INTERRUPTIONS DURING UNIT DOSE DRUG DISTRIBUTION SYSTEM Date: Observed person (PhA): Observer:

End time:

Start time:

Timing		Author of interruption (cross the case)					How do they interrupt? (cross the cases)								
Start time	Duration	Nurse	PhA in pharmacy	Pharmacist	PhA in the same room	PhA himself	Other	Phone call	fax machine	pneumatic conveyor system	Conversations	Doorbell / the entrance of somebody	Other	Motives, reasons of Its	Observer's Remarks
10h06	2'17	X						X						New drug	

		1. <u>Results of</u>	the observation	<u>15</u>		
	Observation al time	Number of ITs	Average length of interruptions (minutes)	Average length of an IT (minutes)	Number of ITs per minute	
Morning	1H41	12	16,7	1,4	6	
	± 22 min	± 4	± 4,1	± 1,1	± 4	

RESULTS

Table 1: Quantitative results

Unit dose drug distribution takes place everyday in the annex.

ITs occurred every 8.5 min and lasted 16 min on average corresponding to 10% of time devoted to UDDS.

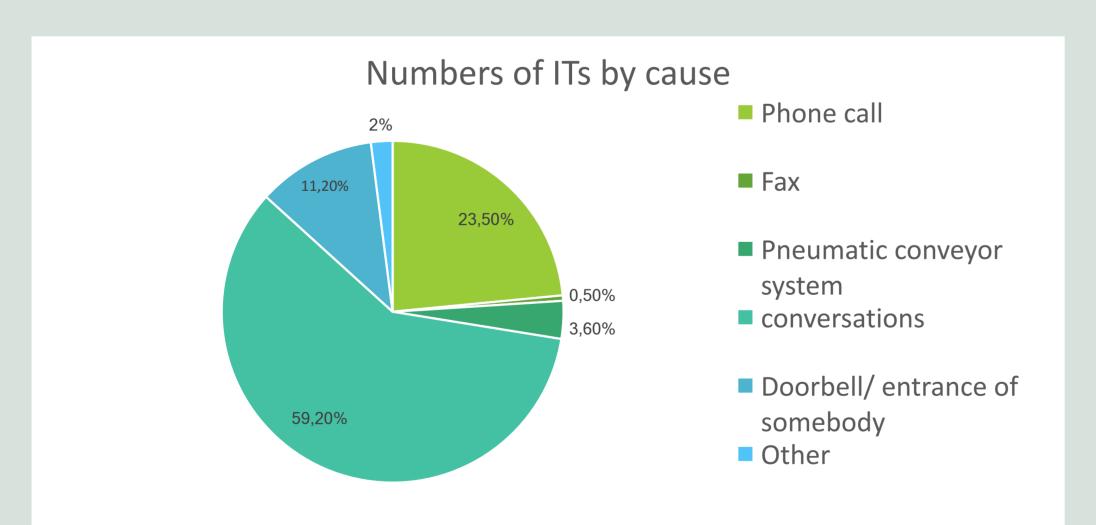
The frequency of IT observed (7 IT/h) was similar with the numerous IT described in nurse stations (6.7 to 7.6 IT/h).

TASK INTERRUPTIC	ONS DURING DAIL	Y UNIT-DOSE DRUG D	ISTRIBUTION SYSTE	M (UDDS)					
k interruption (IT) is desc se of this may be externa						uthors of those in rs. You can also ad	erruptions? Please, n d other authors:	take a cross in the bo	xes corresponding
5).		ACCESS FIELDED WITCH 12	manif on borner	accuracy party inclusion by		ALWAYS	FREQUENTLY	RARELY	NEVER
current activity is stoppe	ed for a while in or	der to make another ta	sk. Sometimes the cu	ment activity may be	The nurses				
pletely dropped, or, son	ne interruptions (d	istractions) lead the wi	orker to realize sever	al things at the same	The pharmacist				
					Your colleagues				
					(Pharmacists' assistants)				
 How long have 	you participated to	o the UDDS?			working in the pharmacy.				
					Your colleagues				
Do you find that	it you are interrupt	ed during your activity	? (circle your answer)):	(Pharmacists' assistants)				
	oui	NON	NE SAIS	PAS	working next to you				
If the answer is	« Yes », do you fir	d that the interruption	s occur (circle your ar	nswer):	Yourself				
ALWAY:	s re	EQUENTLY RA	RELY NEVER		Other? (specify)				
					Other? (secili)				
 How are you in You can also ad 		make a cross in the bo	xes corresponding to	your answers.					
100 Call 010 00	ALWAYS	FREQUENTLY	RARELY	NEVER	Other? (specify)				
ne call									
					5) Do you think	that interruptions	can lead to errors in	your job (when fillin	g the trollies with
machine					drugs)?				
						YES	NO	YOU	DON'T KNOW
amatic conveyor									
em versations									
FET 341/1/13					6) What do you t	hink about these is	terruptions (your gk	bal feeling)? Are the	v justified for your
rbell or the entrance of							ou think that we can		
ebody									
ebody et? (specify)									
et? (specify)									
er? (specify)									
						THANK YOU F	OR YOUR PARTICIPAT	ION C C C	

2) ANONYMOUS QUESTIONNAIRE

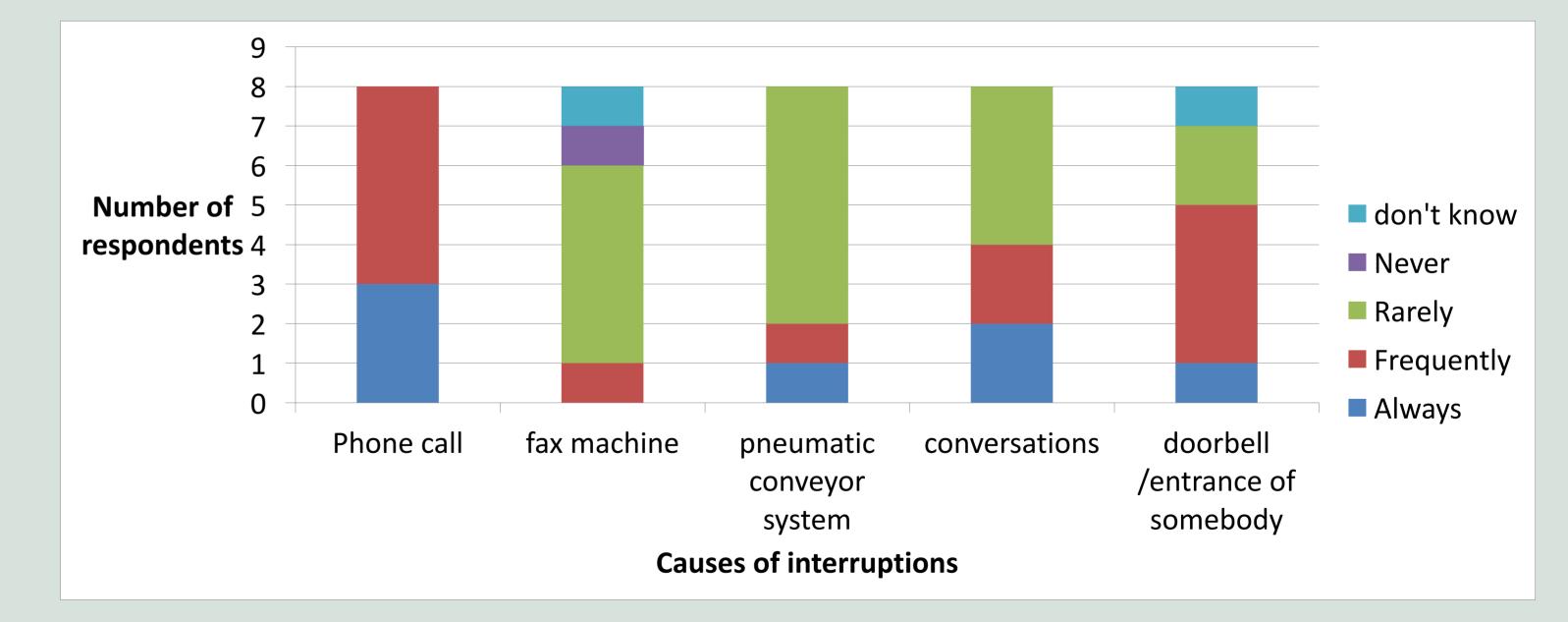
Af	fternoon	2H06	15	15,8	1,0	7
		\pm 27 min	± 5	± 5,3	± 0,3	± 1
	Total	1H58	14	16,1	1,2	7
	Total	\pm 27 min	± 5	± 4,8	± 0,3	± 2

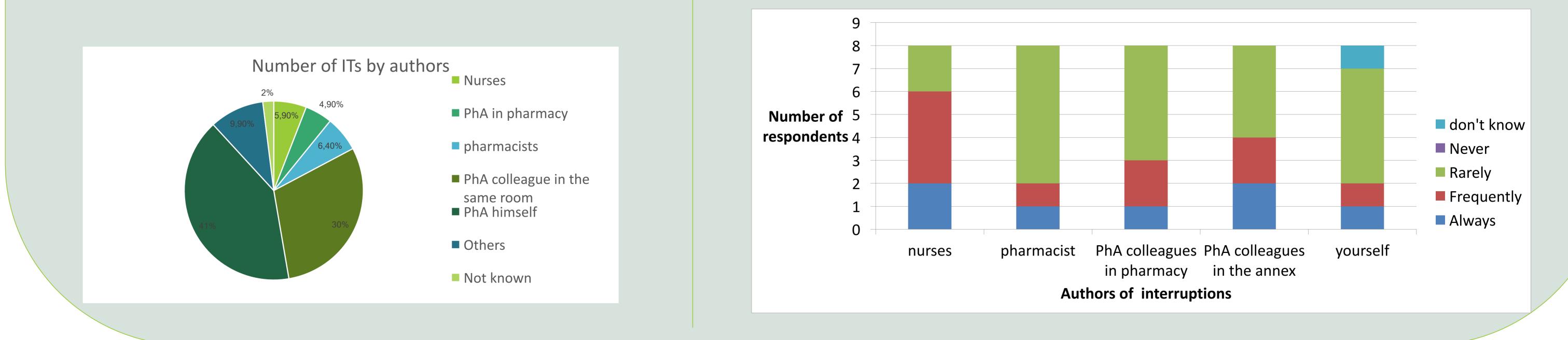
The first cause of distraction was PhA themselves (41%), initiating conversations. De facto, colleagues (30%) were the second cause due to proximity, then nurses and calls from medical staff (23%). Same types of IT were observed in nursing stations because of patient's relatives.



2. Results of the questionnaires

Ten PhA were questioned and answered they felt disturb by IT. Nevertheless, they were particularly understanding of medical staff since their calls are often justified by changes in treatments or discharges of patients.





CONCLUSION

- \rightarrow Task interruptions are numerous but seemed to be justified by the necessity of relationship with medical staff.
- \rightarrow This study allowed the pharmacists and pharmacist's assistants to be aware of ITs and to be made sensitive at the risk of error leads by these.

> The following work will focused on the improvement of the resumption of a current activity. We can lean on the guide of the HAS (tool for securing and self-assessment of interruptions) as well as on the collected data. EAHP Congres, 2017-03