

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

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.

2) ANONYMOUS QUESTIONNAIRE

1) OBSERVATIONAL GRID : TASK INTERRUPTIONS DURING UNIT DOSE DRUG DISTRIBUTION SYSTEM

Date: _____ Observed person (PhA): _____
 Observer: _____ Start time: _____ End time: _____
 Duration of observation: _____

Timing		Author of interruption (cross the case)						How do they interrupt? (cross the cases)						Motives, reasons of Its	Observer's Remarks	
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			
10h06	2'17	x						x							New drug	

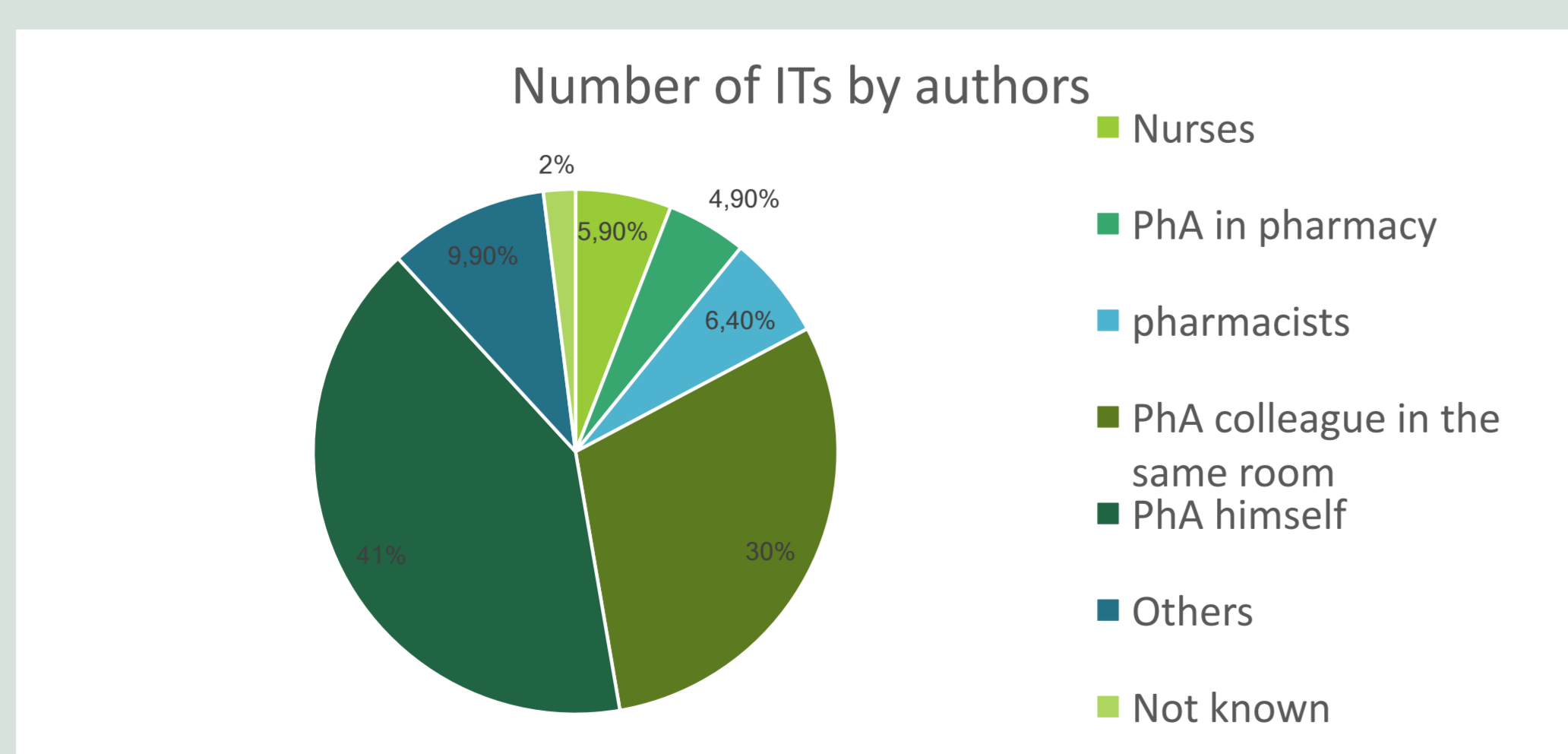
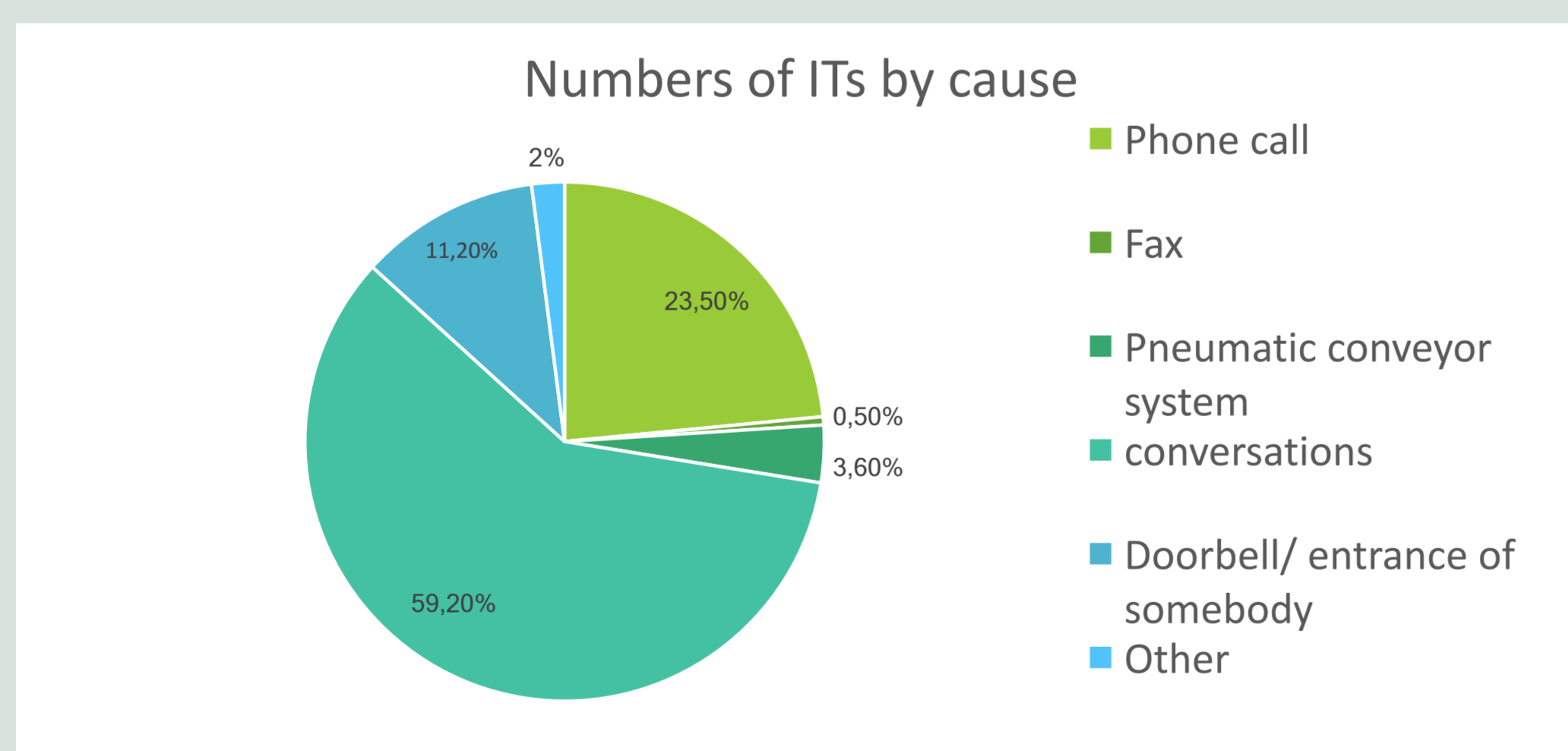
*PhA: Pharmacist's Assistant

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 entrance of somebody	The entry of somebody in the room leads to distraction. Moreover, during the study an intercom was added to the door. The bell thus causes a job interruption.
Other	Other causes of interruptions not previously described.

1. Results of the observations

	Observational time	Number of ITs	Average length of interruptions (minutes)	Average length of an IT (minutes)	Number of ITs per minute
Morning	1H41 ± 22 min	12 ± 4	16,7 ± 4,1	1,4 ± 1,1	6 ± 4
Afternoon	2H06 ± 27 min	15 ± 5	15,8 ± 5,3	1,0 ± 0,3	7 ± 1
Total	1H58 ± 27 min	14 ± 5	16,1 ± 4,8	1,2 ± 0,3	7 ± 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.



RESULTS

Table 1: Quantitative results

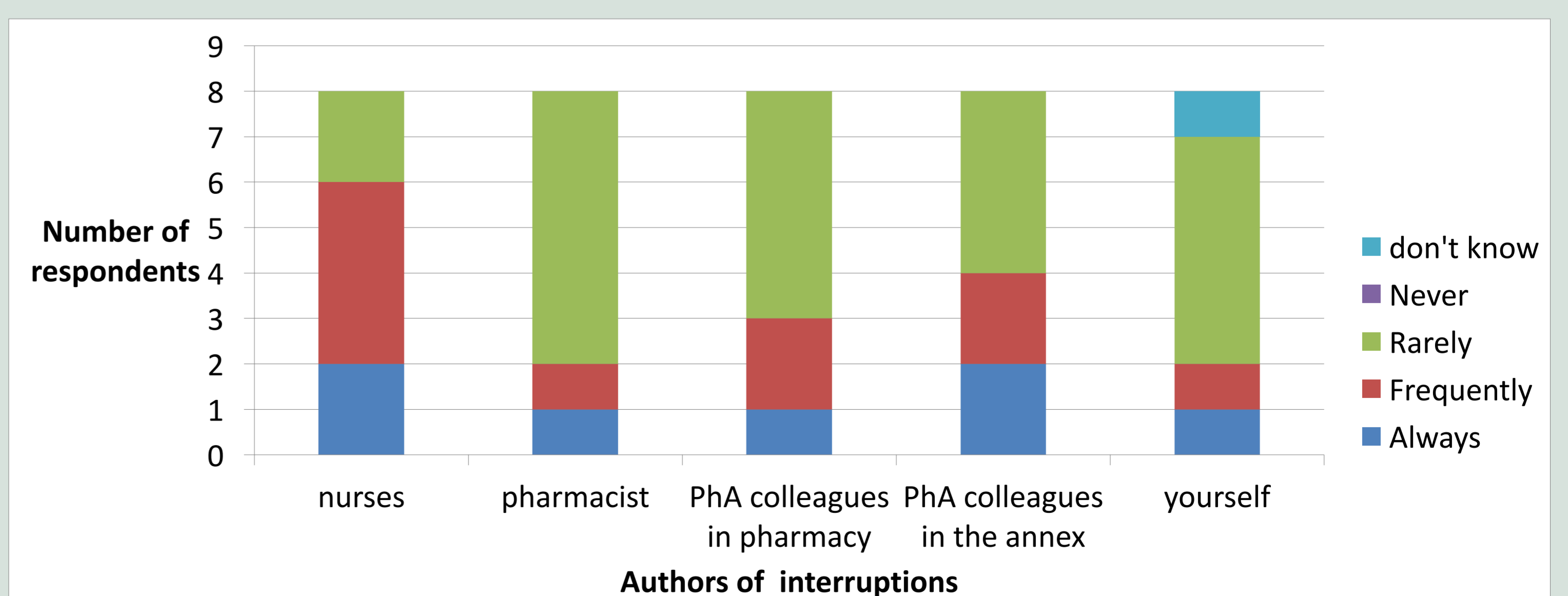
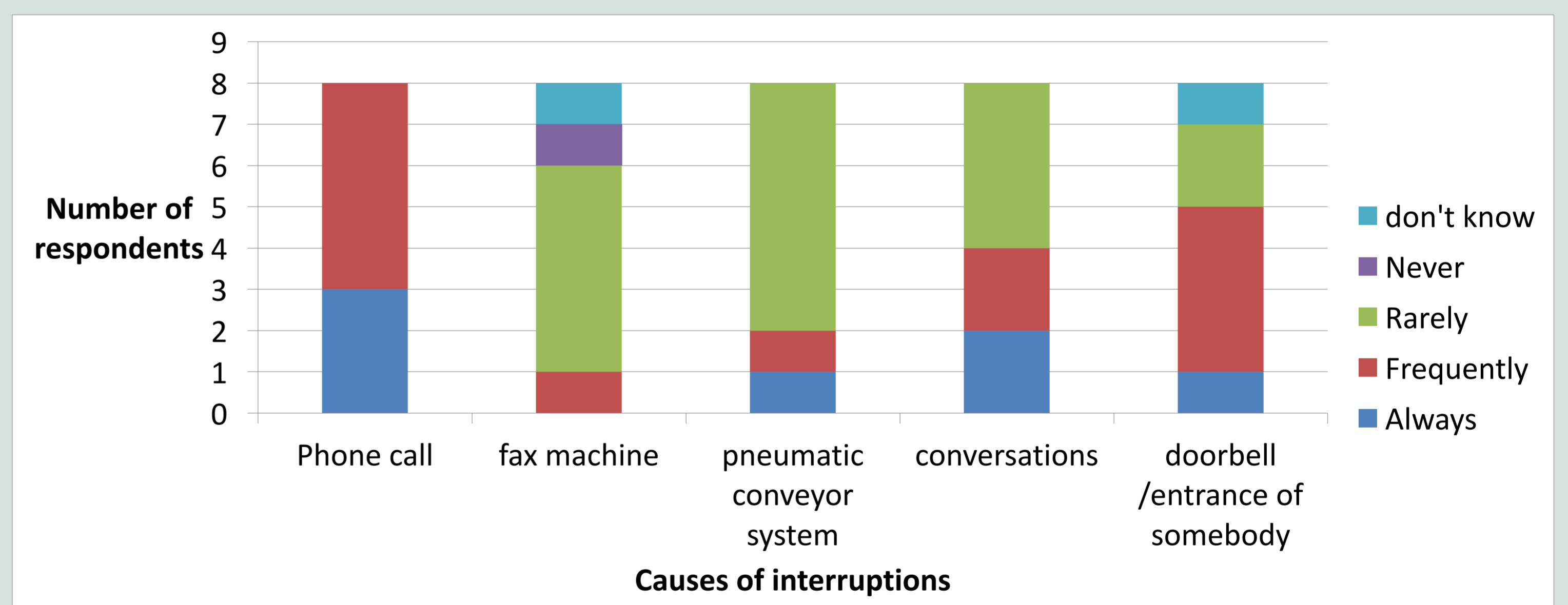
Unit dose drug distribution takes place everyday in the annex.

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).

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

- Task interruptions are numerous but seemed to be justified by the necessity of relationship with medical staff.
- 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.