ACPP PROTOCOL (ANTICIPATED CIRCUIT OF ANTICANCER INTRAVENOUS CHEMOTHERAPIES PRESCRIPTION AND PREPARATION IN A DAY HOSPITAL): OBSERVATIONAL STUDY ASSESSING THE IMPACT OF THE NEW WORKFLOW FOR HOSPITAL PHARMACY

C. Langhendries[1], A. Spinewine[1], L. Soumoy[1], J-D. Hecq[1], M. André[2], L. D'Hondt[3], F. Duplaquet[4], J. Jamart[5], P. Gillet[1]

CHU UCL Namur, site Godinne : [1]Pharmacy Department, [2]Hematology Department, [3]Oncology Department, [4]Pneumology Department, [5]Biostatistics Department

Claire.langhendries@uclouvain.be

Introduction

Unequal daily distribution of the compounding activity for anticancer intravenous chemotherapies (AIVC) can compromise quality, increase patient waiting times at the daily unit and generate stress for pharmacists and technicians. In the context of recurrent work overload at the end of the morning, the Centre Hospitalier Universitaire UCL Namur, site Godinne opted for AIVC Anticipated Circuit of Prescription and Preparation (ACPP).

Purpose

to evaluate the impact of the ACPP protocol on the quality and timing of medications preparation with a primary objective of 40% decrease in the mean daily variances.

Method

- Daily reorganization of the process: the ACPP protocol allows, on the day before the administration, doctor to prescribe the AIVC cure based on clinical (by phone or on site) and biological assessments, and pharmacy to prepare the AIVC.
- Design: before and after study. All AIVC patients coming to the oncology and hematology daily unit over seven weeks before and seven weeks after implementation of the ACPP protocol were included.
- Primary outcomes: quality and timing of medication preparation
- Secondary outcomes: patient's waiting time (with an aim to decrease to 30 minutes), incidents and losses related to the ACPP protocol and bed's occupancy rate of the oncology daily unit.

Results

210 patients were included in the 'before' group and 207 patients in the 'after' group (19% of the latter were included in the ACPP protocol). A 21% decrease of the mean daily variances has been observed with the ACPP (p = 0.11, standard deviation ranging from 1.27 to 0.83 (p = 0.025)) with an improvement of quality of production timing (figure 1). The patient's mean waiting time decreased from 128 to 114 minutes (p = 0.005) between the before/after groups and to 60 minutes for the ACPP subgroup (p ‹ 0.001) (table 1). One of the 174 bags was lost in the ACPP subgroup. There was no incident related to ACPP protocol reported. The ACPP protocol did not improve the occupancy rate (0.78 patients under CAIV/bed/day before ACPP protocol versus 0.70 after ACPP protocol (p=0.231).

Figure 1 : Mean number of AIVC bags produced per time unit of 20 minutes before and after the ACPP protocol

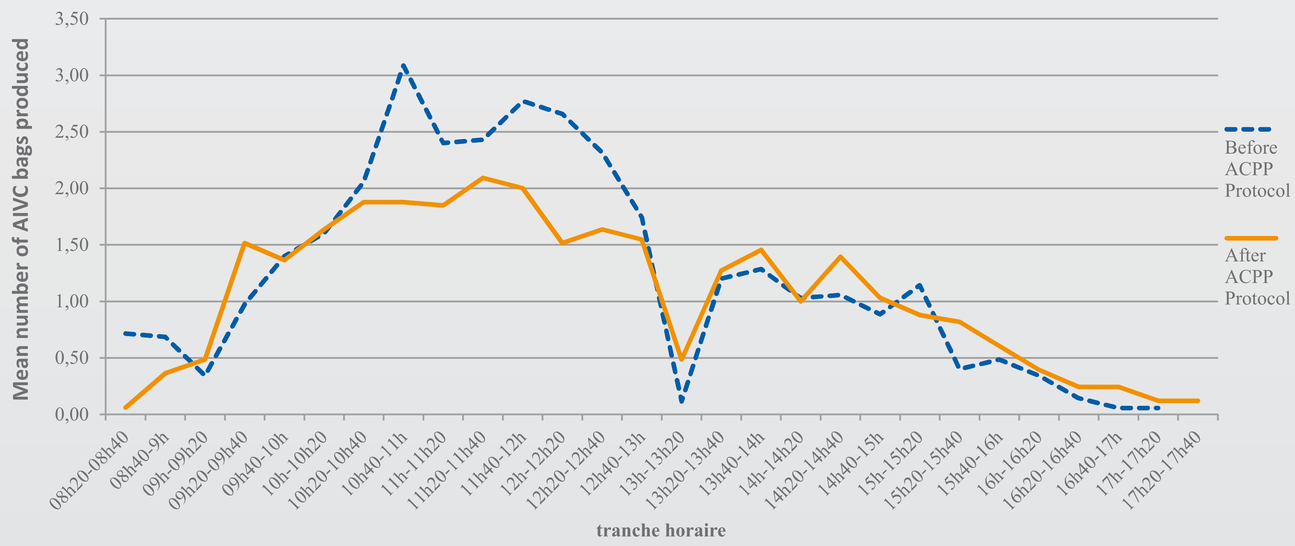

Table 1 : Secondary outcomes : patient's waiting time

SECONDARY OUTCOMES	BEFORE ACPP PROTOCOL	AFTER ACPP PROTOCOL	ACPP'S SUBGROUP	THE AIM
Study period	*4 weeks : 18/01/2016-12/02/2016	*4 weeks : 29/05/2016-23/06/2016	*4 weeks : 29/05/2016-23/06/2016	
Number of patients	199	182	29	
Number of visits	382	328	39	
Mean waiting time (minutes)	**128**	**114**	60	< 30 minutes
Standard deviation of waiting times (minutes)	69	62	31	
p-value	/	0.005	<0.001	

*The patient's waiting time is the is the only parameter studied over 4 weeks instead of 7 weeks

Discussion

the mean daily variance enabled us to observe an improvement of the timing of production without reaching our 40% decrease objective. The mean waiting time has significantly decreased but remains above 30 minutes. The rate of losses in the ACPP protocol is under 2% as desired. The failure to reach our preset objectives can be explained by the fact that the ACPP is a new concept in the clinic and was not implemented at its full potential over the first seven weeks.

Conclusion

ACPP helped to improve pharmacy activities and to decrease patient's waiting time but also to keep a similar security and to avoid losses. However, the study should be conducted on a larger cohort and over a longer period to confirm the impact of the project.

This work was performed as part of the master in hospital pharmacy, Université catholique de Louvain, 2015-2016