

Pilot study about pharmaceutical care implantation in a General Paediatric unit in a French hospital

France-Quebec collaboration and comparison

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Abstract

Introduction - French pharmacists are nearly absent from hospital wards compared to Quebec pharmacists. The objective of this pilot study is to describe the implementation of pharmaceutical care in the general pediatric ward of a French pediatric hospital.

Methods - After completing a training in pharmaceutical care at the Sainte-Justine's University Hospital Center (SJ), Montreal, Canada, a French pharmacist returned to France to implement the pharmaceutical care model. In the first phase, we collected pharmaceutical interventions carried out during a five-month period in the general pediatric ward at Robert Debr  hospital (RD), Paris, France to describe the pharmacist's ability to intervene. In the second phase, we compared pharmaceutical interventions carried out by the French pharmacist and a Canadian pharmacist in both settings during 14 days. Data collected included patient data, drug profile and nature of intervention.

Results - In the first phase, 556 interventions were completed with an average of 8.2 ± 2.0 interventions per day; a significant increase was observed during the first two months. In the second phase, 216 interventions were completed at RD and 174 at SJ. The interventions were mostly related to drug information, modification of treatment and seamless care with the hospital pharmacy or a community pharmacy. The interventions were transmitted verbally to junior or senior physicians and pharmacy staff. Interventions at SJ were mostly done before the prescription was written and more often documented in the patient's chart. Physician acceptance was high, 86.0% and 93.1% at RD and SJ respectively.

Discussion and conclusion - French pharmacists can apply the pharmaceutical care model following a specific training. Pharmaceutical care is not integrated enough in the French pharmacy schools' curriculum. Further studies are required to evaluate the feasibility and the impact of pharmaceutical care in France.

Keywords: Pharmacy Service, Drug Therapy, Hospitals, Paediatric, Drug Monitoring, France, Quebec.

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Introduction

Contrasts between two health-system pharmacy practices:

- France: Activities are more oriented towards production, sterilization and management of sterile medical devices
- Canada: Pharmacists are members of the medical team, take part to therapeutic decisions.

Definition of pharmaceutical care : "the process through which a pharmacist cooperates with a patient and other professionals in designing, implementing, and monitoring a therapeutic plan that will produce specific therapeutic outcomes for the patient" (1)

Objective: Describe the implementation of pharmaceutical care in a general pediatric ward of a French pediatric hospital.

Method

Context : Robert Debr  Hospital (RD) in Paris and Sainte Justine's University Hospital Center (SJ) in Montr al and their general pediatrics units are similar (number of beds, annual expenditures, number of admissions, visits and childbirths, mean length of stay, medical staff and number of beds).

Design: Observational study in two phases :

- First phase:** Description of interventions carried out by a French pharmacist trained to pharmaceutical care during a five-month period in the general pediatrics ward at RD.
- Second phase:** Description and comparison of pharmaceutical interventions provided by team composed of the same trained pharmacist and a Canadian pharmacist in general pediatrics units during a 14-day period in both settings.

Data collected (2-6):

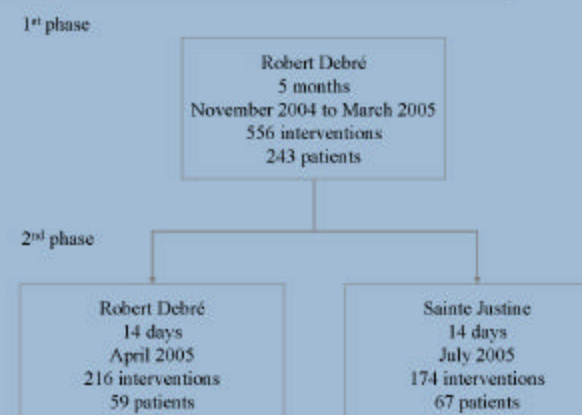
- Patient data:** age, weight, sex, diagnosis
- Drug targeted by the intervention:** Anatomical Therapeutic Chemical [ATC] class, administration route, time elapsed since prescription.
- Intervention:** nature (drug, dose, dispensation, patient follow-up, seamless care, other), recipient, level of acceptance, documentation in patient chart, drug-related problem (DRP: classification issued from Helper and Strand (1, 7)

Impact: Assessed by the pharmacist (therapy benefit, risk avoided and cost).

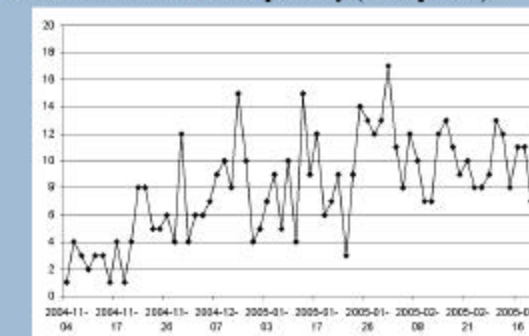
Anonymous survey conducted among medical staff at RD concerning their satisfaction towards the presence of a pharmacist.

Statistic: Data were collected by Access  and analyzed by SPSS  8.0. Statistical tests were χ^2 for qualitative data and Wilcoxon non-parametric test for quantitative data.

Results



Number of interventions per day (first phase):



| Interventions | First Phase | | Second Phase | | | |
|------------------------------|-------------------------|-------|-------------------------|-------|-------------------------|-------|
| | RD 68 days (N = 556) | | RD 14 days (N = 216) | | SJ 14 days (N = 174) | |
| | N | % | N | % | N | % |
| Drug selection | 134 | 24.2% | 57 | 26.4% | 39 | 22.3% |
| Drug dose | 168 | 30.2% | 53 | 24.6% | 45 | 25.9% |
| Drug dispensation | 85 | 15.2% | 49 | 22.7% | 20 | 11.5% |
| Drug follow-up | 23 | 4.2% | 10 | 4.7% | 16 | 9.2% |
| Other interventions | 146 | 26.3% | 47 | 21.8% | 54 | 31.0% |
| Information | 85 | 15.3% | 26 | 12.0% | 26 | 14.9% |
| Patient counselling | 10 | 1.8% | 4 | 1.9% | 12 | 6.9% |
| Allergy documentation | 1 | 0.2% | 2 | 0.9% | 5 | 2.9% |
| Adverse drug reaction report | 18 | 3.2% | 8 | 3.7% | 1 | 0.6% |
| Medication history interview | 0 | 0.0% | 1 | 0.5% | 8 | 4.6% |
| Administrative task | 32 | 5.8% | 6 | 2.8% | 2 | 1.1% |

Major ATC classes: anti-infectious for systemic use (37.6% in the first phase, 54.2% at RD and 43.1% at SJ), GI tract and metabolism (19.4%, 15.3% and 19.5%), central nervous system (11.0%, 4.2% and 4.0%)

Interventions mainly transmitted to junior physicians (55.4% during the first phase, 40.7% at RD and 30.5% at SJ), senior physician (respectively 16.2%, 24.1%, 38.5%), and community or hospital pharmacy (respectively 15.5%, 16.2%, 11.5%)

96.4% to 100% of the interventions have been evaluated with a positive impact, and only 4.3% had a significant positive therapeutic impact during the first phase and 9.7% and 4.6% during the second phase.

Anonymous survey among medical staff: 44 answers (63.6%) collected. Positive impact estimated on time gain (96.4%), communication with the pharmacy (100%), information access (96.4%).

Discussion

- The positive impact of a pharmacist in a medical unit has already been proved in the literature
- Few published data about intervention capacity of pharmacists in French hospital settings
- Implementation of pharmaceutical care services in France is feasible
- Communication between the medical unit and the pharmacy and an efficient drug dispensation system are prerequisites to implementation of pharmaceutical care to provide efficient pharmaceutical care
- Pharmacists tend to underestimate the impact of his own interventions (8).
- Limits : auto-evaluation, different units, different practice settings, different prescription use, comparison of all the interventions realized by both pharmacists: our objective was not to compare each pharmacist but their ability to intervene in each setting.

Conclusion

- French pharmacists can apply the pharmaceutical care model after a specific training.
- Pharmaceutical care is not integrated enough in the French pharmacy schools' culture/academic cursus.
- High satisfaction from the medical unit
- Further studies are required to evaluate the feasibility and the impact of pharmaceutical care in France.