

Research of the most efficient production model for an automated dispensing of doses (ADD) to be administered in a medicine unit

P Frery, E Gayet, JN Maurer, JP Collinot _ Pharmacy, Verdun Saint-Mihiel's Hospital

Introduction

Since 2013, an automated ward dispensing device has been used to give nominative drug dispensation in our institution's long-stay units. We decided to extend this process to medicine units to secure the medication circuit.

Objective

To define the safest and most adapted automated dispensing model for a geriatric medicine unit (average length of stay = 11,7 days).

Methods

Two automated dispensing modes were tested and compared :

Biweekly production

Daily production

Production of doses to be administered in
« morning – midday – evening » order

+ comparison with manual dispensation

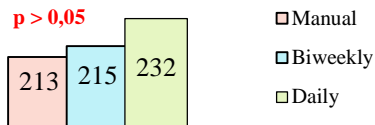
Monitored indicators :

1. Time devoted to the treatments dispensing by pharmacy
2. Time devoted to do pill dispensers' preparation by nurses
3. Rate of pill dispensers' compliance
4. Rate of treatment returns

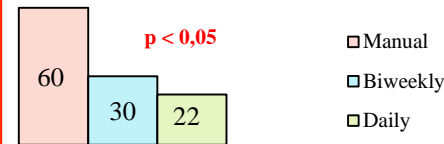
Statistical comparison : Chi² & Student
→ Significance threshold : $p < 0,05$

Results

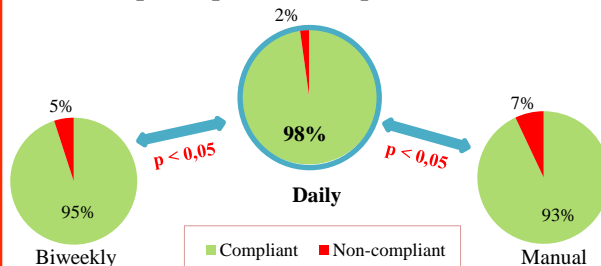
1. Weekly time devoted to the treatments dispensing by pharmacy (in minutes)



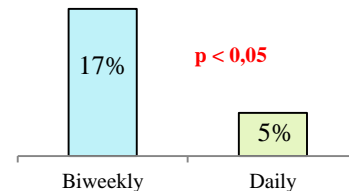
2. Time devoted to do pill dispensers' preparation by nurses (in minutes)



3. Rate of pill dispensers' compliance (%)

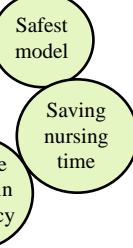


4. Rate of treatment returns (%)



Discussion / Conclusion

Daily model was chosen



Most efficient model

BUT ...

persistence in pill boxes processing changes after the production

→ risk of administration error

Measure introduced:

production of doses to be administered in sequence
« evening - morning - midday »

↓ of the risk of error because most of the prescription's modifications are made during the morning medical examination

↓ of the rate of treatment returns