

IMPROVING INTRAVENOUS TO ORAL SWITCH BY IDENTIFYING AND TACKLING BARRIERS PERCEIVED BY PHYSICIANS AND NURSES

Sandrina von Winckelmann, Eline Boey, Véronique Verheyen
Pharmacy Department, Imelda Hospital Bonheiden, Imeldalaan 9, 2820 Bonheiden, Belgium
contact: sandrina.von.winckelmann@imelda.be



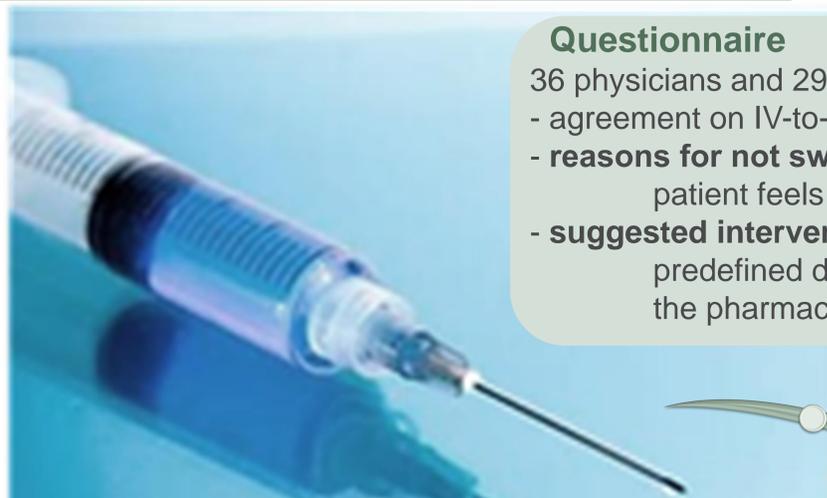
BACKGROUND & AIM

Appropriate and timely switching drugs from intravenous (IV) to oral administration is a good, safe and cost-effective intervention. However, IV-to-oral switch guidelines are not always well adhered to. The aim of this study is to identify barriers to switch and to investigate how hospital pharmacists can promote IV-to-oral switches.

METHODS

- An interventional before-after study performed in a 502-bed regional hospital
- **Validation of switch criteria & identification of barriers to switch:**
Physicians and nurses completed a structured questionnaire asking about switch criteria, main barriers for not switching and interventions to improve switch practice
- **Intervention:**
A bundle of tailored interventions on an orthopedic and geriatric ward
- **Retrospective chart review** of data from 6-months periods before and after intervention
- **Outcome measures:**
 - mean duration of non-appropriate IV-therapy
 - number of IV-to-oral switches

RESULTS



Questionnaire

- 36 physicians and 29 nurses responded (overall response rate = 27%)
- agreement on IV-to-oral switch criteria ($\kappa = 0.87$)
- **reasons for not switching despite patient's eligibility:**
patient feels ill (60%), patient's non-adherence (55%) and swallowing difficulties (54%)
- **suggested interventions to promote IV-to-oral switch:**
predefined drug orders in the electronic prescribing system (59%) and the pharmacist contacting the prescriber in case of a possible switch (40%)

Interventions to overcome barriers

- **poster campaign** concerning IV-to-oral switch for acetaminophen and antibiotics
- adjustment **predefined drug orders** and addition of **powder formulation** of acetaminophen in these orders
- hospital **pharmacist contacting physician by phone** to switch or stop IV acetaminophen, pantoprazole, antibiotics: 79% of interventions accepted (100 out of 127 advices given)



Retrospective chart review before and after intervention

- respectively 227 and 226 patients treated with IV acetaminophen and/or antibiotics with high bio-availability
- **reduction of the mean duration of non-appropriate IV-therapy**
total reduction of -7.25 hour, $p = 0.002$
for acetaminophen: reduction of -9.3 hour, $p = 0.001$
- **increase of number IV-to-oral switches with 8.9%**, $p = 0.027$

CONCLUSIONS

Structural and proactive interventions by the hospital pharmacist result in a reduction of the duration of non-appropriate IV-therapy and an increase of IV-to-oral switches. However the cost-effectiveness and sustainability of these interventions is questionable in a setting with limited clinical pharmacy resources.



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