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

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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.