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MEDICATION SAFETY DURING TRANSITION OF CARE OPTIMIZING THE DISCHARGE PROCESS

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BACKGROUND

Medication related errors are among the most common problems in health care, accounting for up to 50% of all errors.¹

While extensive studies have been done in the inpatient setting, citing an average of 5.2% of patients being affected by a medication error, less is known about the ambulatory care sector or transition of care situations.²

However, up to 7% of all Swiss patients are admitted to the hospital due to medication related problems.³

OBJECTIVE

In order to reduce medication errors during transition of care, distinct institution-specific risk factors have to be identified and evidence-based interventions implemented.

- In the scope of this work,
 - patients at risk,
 - high-alert medications and
 - high-risk process steps at the time of discharge from the cantonal hospital of Lucerne, a 1000-bed hospital with 3 practice sites, were identified.
- Subsequently, tools were developed to optimize medication safety at discharge.

METHODS

- To identify and prioritize medication related risk factors,
 - a literature research (PubMed, Embase),
 - the evaluation of the hospitals critical incident reporting system CIRS and
 - a pharmacy staff survey were used.
- Tools to optimize patient safety were developed based on the literature.

LITERATURE

- Landrigan CP et al. Temporal trends in rates of patient harm resulting from medical care. NEJM 2010, 363(22):2124-34.
- Gandhi TK, et al. Adverse drug events in ambulatory care, NEJM 2003;348: 1556-64.
- Fattinger K, et al. Epidemiology of drug exposure and adverse drug reactions in two swiss departments of internal medicine. BJCP 2000;49:158-67.

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RESULTS

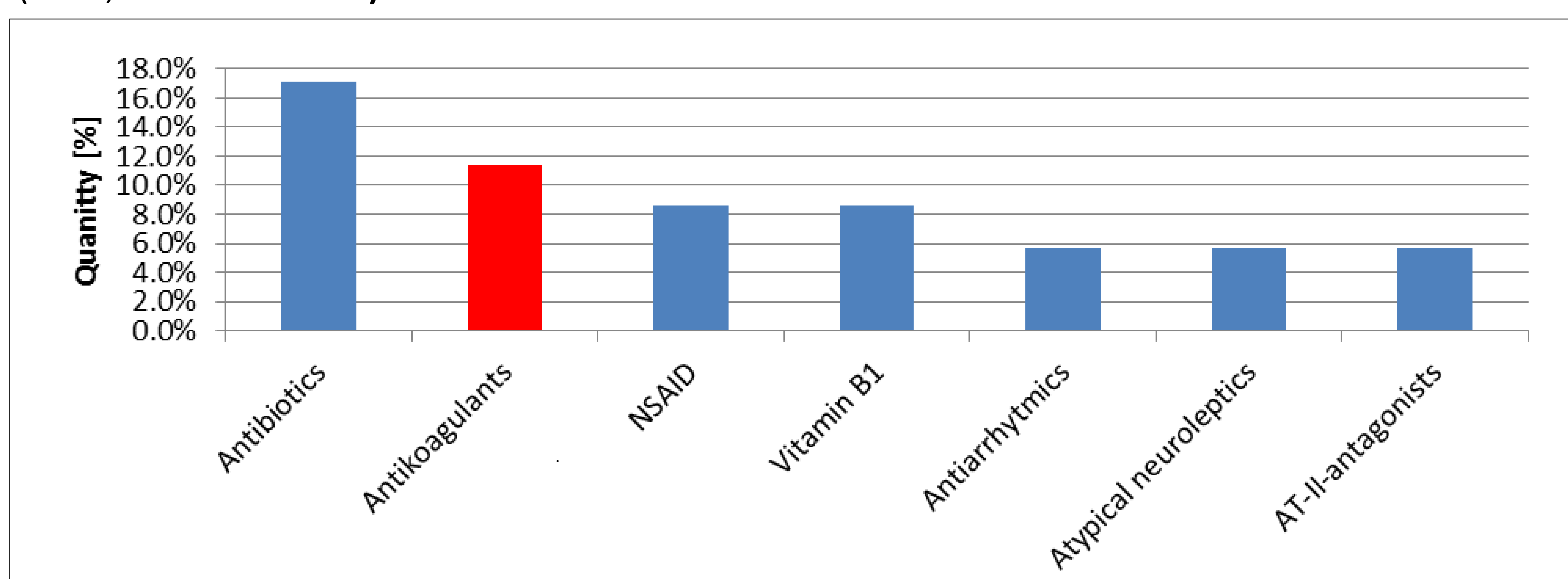
1a. Identification of risk factors – results from the literature

According to the literature-review, including 15 studies, the following population is at risk for drug-related problems:

- Female patients
- Patients between the age of 65 and 85
- Patients taking ≥ 5 different drugs
- Anticoagulants are among the drugs with the highest risk for drug related problems.

1b. Identification of risk factors – results from the CIRS

Figure 1: The 7 most common drug groups responsible for (re-)hospitalizations in the hospital's CIRS (n=67, December 2012)



1c. Identification of risk factors – pharmacy staff survey

60% of pharmacy staff reports specific insecurities while counselling patients with new oral anticoagulants compared to low-molecular heparin and phenprocoumon (Marcoumar®).

2. Tools to optimize medication safety

Based on the literature, the following tools were identified as beneficial for the optimization of medication safety and developed accordingly:

- A counselling algorithm (see figure 2),
- staff teaching materials (rivaroxaban fact sheet, 30-minute-PowerPoint-presentation) and
- patient information leaflets.

Figure 2: Counselling algorithm for rivaroxaban

Counseling recommendations

General questions:
Please ask open-ended questions preferably, in order to engage the patient properly!

- Dose check
 - Dosing regimen accurate?
 - Does the dosing match the indication?
 - Is the time of dosing specified?
 - Dosing regimen known to the patient?
 - Why do you have to take Xarelto®?
 - When do you have to take Xarelto®?
 - How long do you have to take Xarelto®?
- Interaction check
 - Rx-drugs
 - OTC- drugs
 - Which other drug products do you take?
 - Patient reminder: OTC-drugs can interact with Xarelto®. Please contact your PCP if you intend to take OTC-drugs.
- Monitoring
 - When do you have your next appointment with your PCP?
- Patient information / educational material
 - Provide the patient with a fact-sheet
 - Apply dosing interval stickers
 - Did you receive an anticoagulant alert card upon discharge?
 - Patient reminder: Please carry your anticoagulant alert card with you at all times.
- Omitted tablets
 - Patient reminder: It is very important that you take your tablets regularly and finish the complete therapy cycle.
- Final question
 - Which additional questions and concerns do you have?

CONCLUSIONS

Based on the prescription data of the public pharmacy located at the cantonal hospital of Lucerne 3% of discharged patients fit the high risk profile (age>65, female, ≥ 5 drugs) for potential drug related problems. They are a priority target for extensive counselling as a first step in improving medication safety at discharge.

Special attention should be directed to patients treated with oral anticoagulants.

In the future, more risk adapted counselling algorithms / materials need to be developed and their impact evaluated.