

Medication errors in prescribing antithrombotics for patients admitted to the hospital in the weekend. A pilot-study.

Abstract number: 4CPS-032; ATC code: 2. Case studies – with patient consent

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Background

At the Emergency Room of a hospital many patients are admitted for various acute indications. Some of these patients enter the hospital while using oral antithrombotics at home. For other patients the use of antithrombotics is indicated on admission.

It is well known that medication errors are frequently encountered when prescribing antithrombotics in transfer situations. We figured that especially weekends might give rise to errors and mistakes (*). To study the incidence of this problem in patients with an indication for or using antithrombotic drugs in our hospital, we studied the records of a cohort of patients admitted in the weekend.

Aim and Objectives

Improvement in medication transfer and prescription of antithrombotic.

(* *Involved risk factors in this study:*

1. *the use of antithrombotics*
2. *medication transfer*
3. *acute admission in the weekend*

Materials and Methods

This pilot study was performed at the RdGG in Delft.

Patients admitted to our hospital through an ER visit were subjected to medication reconciliation by the pharmacy technician. When the patient used antithrombotics, the pharmacy technician selected the patient. This took place in four weekends between 18/9/2020 and 11/10/2020.

A member of the multidisciplinary antithrombotic team retrospectively compared the dose and schedule of the antithrombotics with the current hospital protocols and medication errors were collected.

The antithrombotic therapy was analyzed after discharge of the patient. If a medication error was present, we first determined whether the medication error had occurred on admission, during hospital stay or at discharge. Secondly we used the medication error classification of the NVZA (*) to determine what type of medication error had been taken place.

These measurements were discussed in the multidisciplinary antithrombotic team of the RdGG. Suggestions for improvement and further study, based on these data, were made.

(* *van den Bemt PMLA, Egberts ACG. Drug-related problems: definitions and classifications. EJHP Practice 2007;13(1):62-4*

Measurements

Prescription errors antithrombotics (n=30)		A (*)	H	D
Administrative/procedural (3)	<i>incomplete communication-intern</i>	2	1	-
Dosing (7)	<i>underdosing antithrombotic</i>	-	2	-
	<i>overdosing antithrombotic</i>	1	2	1
	<i>no dosing</i>	1	-	-
Therapeutic (18)	<i>not indicated prescribed antithrombotic</i>	3	4	-
	<i>indicated not prescribed antithrombotic</i>	3	6	-
	<i>wrong combination of antithrombotics</i>	-	-	1
	<i>interaction, wrong handling</i>	1	-	-
Transmural (2)	<i>at discharge no continue of antithrombotic</i>	-	-	1
	<i>at discharge incomplete communication</i>	-	-	1

A = on Admission, H = during Hospital stay
D = at Discharge

Results

In this retrospective pilot study 44 patients were selected by the pharmacy technician. All of these patients used antithrombotic therapy (started at home or in the hospital) and were admitted to our hospital through an emergency room visit. In 20 of the 44 patients (45%) medication errors in prescribing antithrombotics occurred. In total 30 medication errors were found.

The most frequent medication error took place on admission or during hospital stay in the therapeutic category. Mainly reported errors were: the antithrombotic was not prescribed or the prescribed antithrombotic was not indicated.

Although the number of patients in this study was small and not every medication error will cause harm, the high proportion of patients with a medication error gave rise to discuss the data in the multidisciplinary antithrombotic team.

It was suggested to introduce fixed medication orders for antithrombotics, to help the physician to prescribe the right and indicated antithrombotic. Furthermore education on the use of antithrombotic therapy for physicians and pharmacy technicians could help to improve the prescription of the right antithrombotic.

Conclusions

We conclude that a considerable amount of medication errors occur in prescribing antithrombotics for patients admitted to the hospital through the ER in the weekend. Because only a small group of patients was involved in this pilot study, more patients will be included in the future. After this, appropriate improvements for prescribing antithrombotics can be introduced such as implementation of fixed medication orders in the CPOE and education concerning antithrombotic therapy.

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