**GRP 104**

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**17th Congress OF THE EAHP**

**Milano, Italy 2011**

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# Closing the gap – improving patient safety with better drug information

## Background and Objectives

At the interface of inpatient and outpatient treatment poor information transfer is obvious. Patients are not sufficiently informed about their current and future drug therapies. General practitioners (GP) are also looking for complete information to continue hospital initiated drug therapy.
Objectives: Comparison of patients' medication knowledge and GPs' effort to inform patients when the process of discharge management takes place with or without a clinical pharmacist's involvement.

## Methods

The extent and quality of information which patients received about their discharge medication with or without the involvement of a hospital pharmacist was investigated consecutively in a controlled, comparative study at 5 different hospitals [11 wards, disciplines surgery, ear, nose and throat (ENT), cardiology, urology] from February 2010 until October 2011. The satisfaction of patients and their general practitioners (GP) with the different discharge management processes was analyzed by means of standardized questionnaires.

## Results

In Phase 1 (hospital pharmacist not involved, 847 patients, response rate 64%) new drugs which were recommended to be continued after discharge were prescribed to 55% of patients. 12% of these patients were neither instructed in hospital nor in outpatient settings about their newly prescribed medication. Specifically looked at cardiac patients this ratio even increased to 18%. If an education took place, 22% of patients were not or only partially satisfied.
In phase 2 (618 patients, response rate 66%), all patients were trained by a hospital pharmacist how to use their newly prescribed medication. The information ratio rose to 100%. Patients' satisfaction regarding the quality of education increased to 88% (table 1). To support the education each patient got a patient specific illustrated medication schedule (figure 1) with detailed information about all his prescribed drugs, for example the method of administration, the indication and the duration of drug therapy. This medication schedule was reported to be helpful by 86% of patients. Mainly important to the patients were the method of administration (75%) and the indication of prescribed drugs (67%). Patients felt safer, if the pharmacist surveyed their medication (72%, Likert scale "exactly true and true" versus 48% phase 1).
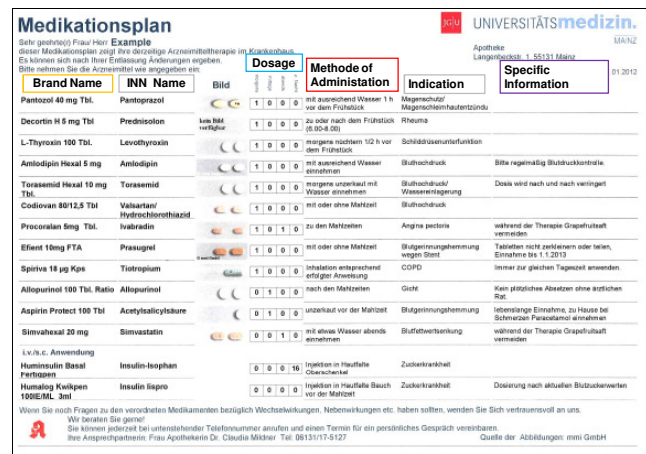


Figure 1: medication schedule phase 2 (Hospital Mainz)

Up to 17 different drugs were explained on the medication schedule and patients were trained to use them. The time required for counselling differed from 6,5 to 29 minutes, the resulting costs varied from 5 to 22,30 € (figure 2).
50% (51/102) of GPs confirmed better information of their patients by involvement of a hospital pharmacist [phase 1: 27% (22/82), Likert scale "exactly true"; p-value 0,005, Cochran-Mantel-Haenszel-test]. They also attested reduced effort of time to explain medication to the patient because the patient has got a medication schedule (31% (32/102) versus 18% (15/82) in phase 1, Likert scale "exactly true"; p-value 0,043, $X^2$-test).

| Patient questionaire | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Phase 1 N=290 | | | Phase 2 N=362 | | | p-value |
| Receipt of adequate and understandable drug information [n (%)] | Surgery N=168 | Cardiology N=122 | **All patients N=290** | Surgery N=224 | Cardiology N=138 | **All patients N=362** | |
| Yes | 116 (69%) | 74 (61%) | 190 (66%) | 196 (88%) | 124 (90%) | 320 (88%) | <0.001§ |
| No | 8 (5%) | 21 (17%) | 29 (10%) | 1 (0.5%) | 0 (0%) | 1 (0.5%) | |
| Partly | 13 (8%) | 21 (17%) | 34 (12%) | 10 (4%) | 7 (5%) | 17 (5%) | |
| No data | 31 (18%) | 6 (5%) | 37 (13%) | 17 (18%) | 7 (5%) | 25 (7%) | |

**Table 1: Quality of drug information**
§ p-value: comparison of patient-data in phase 1 and 2 by Cochran-Mantel-Haenszel-test
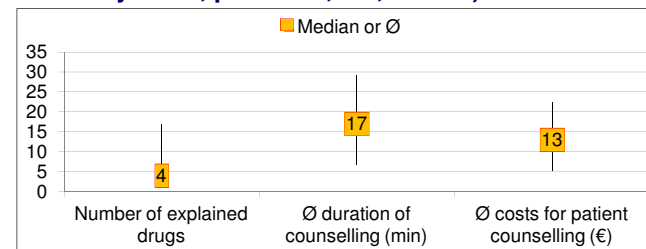N = number of patients with newly prescribed drugs



Figure 2: Number of explained drugs, duration and costs of patient counselling (costs based on 0,77€/min for a hospital pharmacist)

## Conclusion

Counselling of patients by a hospital pharmacist is a suitable measure in order to close information gaps. The quality of information improves. Patients desire a medication schedule to support this counselling. GPs find their patients better informed and appreciate reduced time and effort.