UNIVERSITĀTS**medizin.**

GRP 104

C. Mildner¹ C. Degenhardt² C. Lamberth³ R.Metzel⁴ J. Witte⁵ I.Krämer¹

¹Apotheke Universitätsmedizin der Johannes Gutenberg-Universität Mainz, ²Apotheke des Klinikums der Stadt Ludwigshafen ³Apotheke des **Diakonie-Krankenhauses** - kreuznacher diakonie -⁴Apotheke Kinikum Mutterhaus der Borromäerinnen Trier ⁵Apotheke **Katholisches** Klinikum Koblenz

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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.

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%) indication and the of prescribed drugs (67%). Patients felt safer, if the pharmacist surveyed their medication (72%, Likert scale "exactely true and true" versus 48% phase 1).

	Patient questionaire								
				Phase 2 N=362			p-value		
Receipt of adequate and understandable	Surgery	Cardiology	All patients	Surgery	Cardiology	All patients			
drug information [n (%)]	N=168	N=122	N=290	N=224	N=138	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

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.

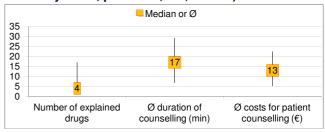
Results

Es können sich nach Ihrer Entlassung Änderungen Bitte nehmen Sie die Arzneimittel wie angegeben e		ergeben.	Dosage	Methode of	Lang	Specific 01.20	
Brand Name	INN Name	Bild	1111	Administation	Indication	Information 01.20	
Pantozol 40 mg Tbl.	Pantoprazol	CO	1000	mit ausreichend Wasser 1 h vor dem Frühstück	Magenschulz/ Magenschleimhautentzündu		
Decortin H 5 mg Tbl	Prednisolon	kein Bild verfägtor	1 0 0 0	zu oder nach dem Frühstück (6.00-8.00)	Rheuma		
L-Thyroxin 100 Tbl.	Levothyroxin		1 0 0 0	morgens nächtern 1/2 h vor dem Frühstlick	Schildchüsenunterfunktion		
Amlodipin Hexal 5 mg	Amlodipin	cc	1 0 0 0	mit ausreichend Wasser einnehmen	Bluthochdruck	Bite regelmäßig Blutchuckkontrolle.	
Torasemid Hexal 10 mg Tbl.	Torasemid		1 0 0 0	morgens unzerkaut mit Wasser einnehmen	Bluthochdruck/ Wassereinlagerung	Dosis wird nach und nach verringert	
Codiovan 80/12,5 Tbl	Valsartan/ Hydrochlorothiazid	ce	1 0 0 0	mit oder ohne Mahlzeit	Bluthochdruck		
Procoralan Smg Tbl.	Ivabradin		1 0 1 0	zu den Mahlzeiten	Angina pectoria	während der Therapie Grapefruiteaft vermeiden	
Efient 10mg FTA	Prasugrel		1 0 0 0	mit oder ohne Mahlzeit	Blutgerinnungshemmung wegen Stent	Tabletten nicht zerkleinern oder teilen, Einnahme bis 1.1.2013	
Spiriva 18 µg Kps	Tiotropium	-	1 0 0 0	Inhalation enteprechend erfolgter Arweisung	COPD	Immer zur gleichen Tageszeit anwenden.	
Allopurinol 100 Tbl. Ratio	Allopurinol	LL	0 1 0 0	nach den Mahlzeiten	Gicht	Kein plötzliches Absetzen ohne ätzflichen Rat	
Aspirin Protect 100 Tbl	Acetylsalicylsäure	(0 1 0 0	unzerkaut vor der Mahlzeit	Blutgerinnungshemmung	lebenslange Einnahme, zu Hause bei Schmerzen Peracetamol einnehmen	
Simvahexal 20 mg	Simvastatin	00	0 0 1 0	mit etwas Wasser abends einnehmen	Blutfettwertsenkung	während der Therapie Grapefruitsaft vermeiden	
i.v./s.c. Anwendung							
Huminsulin Basal Perticipen	Insulin-Isophan		0 0 0 16	Injektion in Hautfalte Oberachenkel	Zuckenkrank/heit		
Humalog Kwikpen 100E/ML 3ml	Insulin lispro		0 0 0 0	Injektion in Hautfalte Bauch vor der Mahlgeit	Zuckerkrankheit	Dosierung nach aktuellen Blutzuckerwerten	

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 "exactely 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 "exactely true"; p-value 0,043, X²-test).





Conclusion

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

correspondence

claudia.mildner@ unimedizin-mainz.de