Eur J Clin Pharmacol (2000) 56: 511–512

PHARMACOEPIDEMIOLOGY AND PRESCRIPTION

M. L. Bouvy · T. C. G. Egberts

Consequences of a change in reimbursement status on prescription patterns

Received: 6 March 2000 / Accepted in revised form: 4 May 2000

Key words Reimbursement status · Prescription patterns

Introduction

On 1 September 1999, the Dutch Ministry of Health changed the reimbursement status for prescription drugs that are also available over the counter (OTC). This change in reimbursement schedule implies that while some drugs will not be reimbursed at all, others will only be reimbursed when a chronic indication exists. Within the group of oral anthistaminergic drugs, the two most commonly prescribed drugs – cetirizine and loratadine – are the sole drugs that are also available OTC in the Netherlands. However, most patients obtain a prescription for these drugs. The new reimbursement status implies payment by the patient for prescriptions of these drugs when they do not use these drugs chronically. The other oral antihistaminergic drugs will also be reimbursed under the new reimbursement schedule. The objective of the present study was to estimate the impact of this change in reimbursement status on the prescription pattern of oral antihistaminergic drugs.

M. L. Bouvy
SIR Institute for Pharmacy Practice Research, Leiden, The Netherlands

M. L. Bouvy · T. C. G. Egberts (✉)
Department of Pharmacoepidemiology and Pharmacotherapy, Utrecht Institute for Pharmaceutical Sciences,
PO Box 80082, 3508TB Utrecht, The Netherlands
e-mail: A.C.G.Egberts@pharm.uu.nl
Tel.: +31-30-2537324; Fax: +31-30-2539166

T. C. G. Egberts
Hospital pharmacy 'Midden Brabant', TweeSteden Hospital and St. Elisabeth Hospital, Tilburg, The Netherlands

Methods and subjects studied

Twenty-five community pharmacists, randomly distributed among the Netherlands, were asked to participate in this study. For all prescriptions of an oral antihistaminergic drug presented during the week of 2–6 August and during the week of 20–24 September, several characteristics were determined: patient (age, gender, type of health insurance), prescribing physician (general practitioner or specialist) and drug (type of antihistaminergic drug, starter, switcher). Starters were defined as those patients who had not received any oral antihistaminergic drug in 1999. Switchers were defined as patients for whom the last prescription of an antihistaminergic drug concerned a chemical entity other than the present prescription. The indication for use of the oral antihistaminergic drug was not known. The outcome of interest was the relative frequency of prescriptions of no longer reimbursed, sedating and newly introduced oral antihistaminergic drugs prescribed after versus those prescribed before introduction of the new reimbursement status.

Results

We received data from 22 pharmacies. Altogether 953 antihistaminergics were prescribed within the study period. Of these, 565 (59%) were prescribed before 1 September and 388 (41%) after the new regulation (Table 1). This difference most likely arises from the fact that the hay-fever season has almost ended by September.

Our results show that the change in reimbursement status exerts a major impact on the prescription pattern of oral antihistaminergic drugs. Overall, drugs that were no longer reimbursed were less frequently prescribed after the introduction of the new reimbursement schedule, and sedating oral antihistaminergic drugs were more frequently prescribed. Only in the subgroup of 'starters' was there a significant increase in the prescriptions for newly introduced antihistaminergic drugs (ebastine, fexofenadine and mizolastine). In this subgroup there was no significant change in the frequency of prescriptions for sedative drugs.

Table 1 Prescription patterns of oral antihistaminergic drugs before and after the change of reimbursement status. *CI* confidence interval; *OTC* over the counter

	Before 1 September (n = 565)	After 1 September (n = 388)	Relative risk (95% CI)
All prescriptions			
Mean age (years)	31.1	30.1	
Gender			
Male	195 (34.5%)	138 (35.6%)	
Female	370 (65.5%)	250 (64.4%)	
Prescriber			
General practitioner	519 (91.9%)	349 (89.9%)	
Specialist	42 (7.4%)	33 (8.5%)	
Other (e.g. OTC)	4 (0.7%)	6 (1.5%)	
Insurance			
Private	162 (28.7%)	112 (28.9%)	
Sick fund	385 (68.1%)	257 (66.2%)	
Unknown	18 (3.2%)	19 (4.9%)	
Prescription characteristics of oral antihistaminergic drugs (all patients)			
No longer reimbursed (cetirizine, loratadine)	385 (68.1%)	239 (61.6%)	0.90 (0.82–0.99)
Sedating (dexchloorfeniramine, ketotifen, clemastine, mebhydroline, dimetindeen)	55 (9.7%)	56 (14.4%)	1.48 (1.05–2.10)
New (fexofenadine, mizolastine, ebastine)	73 (12.9%)	65 (16.8%)	1.30 (0.95–1.77)
Prescription characteristics of oral antihistaminergic drugs (starters, n = 392)			
No longer reimbursed (cetirizine, loratadine)	153 (67.1%)	86 (52.4%)	0.78 (0.66–0.93)
Sedating (dexchloorfeniramine, ketotifen, clemastine, mebhydroline, dimetindeen)	34 (14.9%)	27 (16.5%)	1.10 (0.69–1.76)
New (fexofenadine, mizolastine, ebastine)	27 (11.8%)	42 (25.6%)	2.16 (1.40–3.36)

Discussion

Our study shows that a change in reimbursement status can change prescription patterns. Literature shows another interesting example. On 1 January 1989, the state of New York implemented strict rules for the prescription of benzodiazepines [1]. The use of benzodiazepines decreased significantly (33%). Simultaneously, however, more toxic and less desirable sedating drugs such as barbiturates, meprobamate, hydroxyzine and chloralhydrate were prescribed.

In our study, there was a shift mainly to the prescribing of recently introduced drugs, instead of older sedating drugs. This shift was very obvious in patients starting with antihistamines. This can be explained by the fact that this includes patients who would have to pay for a first prescription of the drugs no longer reimbursed.

The potential risks and benefits of the recently introduced drugs are less known. Additionally, these newer drugs will still be under patent, which subsequently could lead to increased costs. Unfortunately, we were not able to study whether there was also a change in the sales of OTC antihistaminergic drugs. Policy makers should consider these potential side effects of changes in reimbursement status.

Acknowledgement We would like to thank all pharmacists who participated in this study.

Reference

1. McNutt LA, Coles FB, McAuliffe T, Baird S, Morse DL, Strogatz DS, et al (1994) Impact of regulation on benzodiazepine prescribing to a low income elderly population, New York State. J Clin Epidemiol 47: 613–625