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OUTPATIENT PRESCRIPTION WRITING QUALITY IN A PAEDIATRIC GENERAL HOSPITAL

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BACKGROUND

The writing of prescriptions is an important aspect of medical practice. This activity presents some particular problems given the risk of interpretation and dispensing errors in community pharmacies. Since 2006, the Swiss authorities have decided to impose incentives to prescribe generic drugs.

OBJECTIVES

- To determine the evolution of the outpatient prescription practice in our paediatric university hospital during 2 periods separated by 5 years.
- To assess the writing quality of outpatient prescriptions during the same periods.

SETTING

Paediatric general hospital attached to a university hospital.

METHODS

Copies of prescriptions written by physicians were collected twice from community pharmacies in the region of the HEL for a two-month period in 2005 and 2010. They were analysed according to standard criteria regarding both formal and pharmaceutical aspects [1, 2].

Drug prescriptions were classified as:
a) complete when all criteria for safety were fulfilled,
b) ambiguous when there was a danger of a dispensing error because of one or more criteria missing, or
c) containing an **error**.
Comparisons between frequencies were achieved using the Fisher's exact test.

RESULTS

Table 1 : Analysed prescriptions

	2005	2010
Prescriptions, n	**651**	**693**
Outpatient clinics, n (%)	**597 (91.7)**	**633 (91.3)**
Hospitalisation, n (%)	**54 (8.3)**	**60 (8.6)**
Lines of drug prescriptions, n	**1570**	**1462**
Detailed drug prescriptions, n (%)	**1370 (87.3)**	**1242 (85.0)**
Prescriptions with just the drug name, n (%)	**200 (12.7)**	**220 (15.0)**
Drugs, mean ± SD	**2.4 ± 1.2**	**2.1 ± 1.1**
Generic drugs or generic names, n (%)	**324 (20.6)**	**369 (25.2)**
Patients' age, mean ± SD	**5.4 ± 4.5**	**6.1 ± 4.7**

Table 2 : The 15 most prescribed drugs

	2005		2010	
Rank	**Drugs**	**n (%)**	**Drugs**	**n (%)**
1	Paracetamol (acetaminophen)	370 (23.6)	Paracetamol (acetaminophen)	333 (22.8)
2	Ibuprofen	246 (15.7)	Ibuprofen	317 (21.7)
3	Sodium choride	168 (10.7)	Sodium choride	130 (8.9)
4	Chlorhexidine - oxybuprocaine	70 (4.5)	Amoxicillin	99 (6.8)
5	Amoxicillin	63 (4.0)	Oral rehydration solution	53 (3.6)
6	Oxomemazine - guaifenesin - sodium benzoate	46 (2.9)	Oxymetazoline	49 (3.4)
7	Amoxicillin - clavulanic acid	37 (2.4)	Salbutamol (albuterol)	42 (2.9)
8	Salbutamol (albuterol)	36 (2.3)	Amoxicillin - clavulanic acid	26 (1.8)
9	Mefenamic acid	34 (2.2)	Dimethindene	23 (1.6)
10	Xylometazoline	33 (2.1)	Phenoxymethylpenicillin	23 (1.6)
11	Codeine - phenyltoloxamine	33 (2.1)	Chamomile extract	18 (1.2)
12	Phenylephrine (nasal)	30 (1.9)	Polymyxin B - Neomycin	17 (1.2)
13	Oxymetazoline	28 (1.8)	Mefenamic acid	17 (1.2)
14	Xylometazoline -carbocisteine	24 (1.5)	Xylometazoline	15 (1.0)
15	Phenoxymethylpenicillin	23 (1.5)	Dexpanthenol	13 (0.9)
	Total	**1241 (79.0)**		**1175 (80.4)**

Fig. 1 : Formal criteria regarding the prescribers

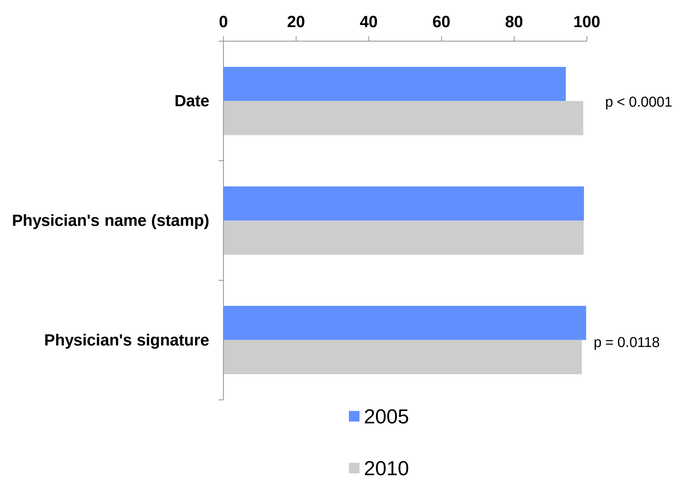

Fig. 2 : Formal criteria regarding the patients

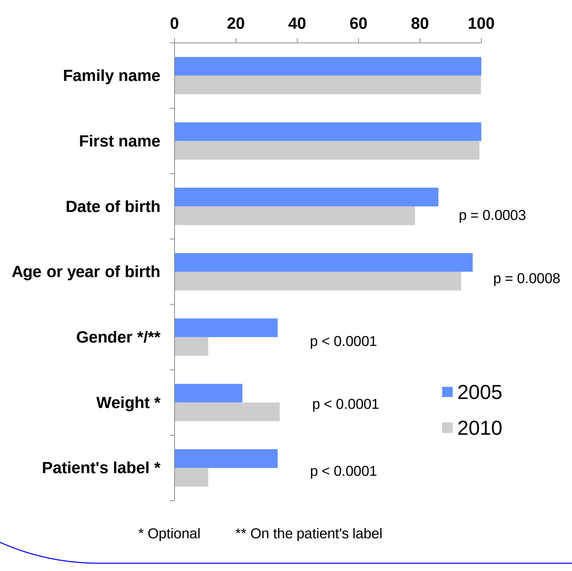

Fig. 3 : Formal criteria regarding the drugs

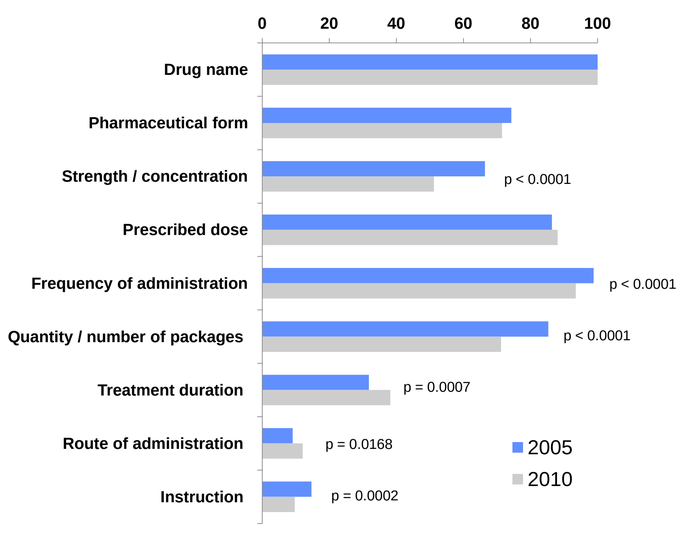

Table 3 : Prescribing problems and errors

	2005	2010	
Criteria	**n (%)**	**n (%)**	**p**
Patient's name readable with difficulty or unreadable *1*	**65 (10.0)**	**74 (10.7)**	**0.72**
Drug prescription readable with difficulty *2*	**51 (3.2)**	**78 (5.3)**	**0.0051**
Incomplete drug prescription *3*	**664 (48.5)**	**797 (64.2)**	**< 0.0001**
Ambiguous drug prescription *3*	**155 (11.3)**	**193 (15.5)**	**0.0018**
Drug prescriptions containing an error, *2*	**47 (3.0)**	**108 (7.4)**	**< 0.0001**
Illegible drug name	**0**	**1**	
Drug out of the market	**4**	**21**	
Wrong name	**0**	**25**	
Wrong pharmaceutical form	**9**	**9**	
Wrong strength / concentration	**15**	**13**	
Wrong dose or frequency of administration	**7**	**14**	
Wrong quantity / nb of packages *4*	**12**	**25**	

1 n = 651 (2005) and 693 (2010)
2 n = 1570 (2005) and 1462 (2010)
3 n = 1370 (2005) and 1242 (2010)
4 Treatment duration present on the prescriptions

CONCLUSION

- **This study showed that physicians' prescriptions comprised numerous omissions and errors with minimal potential for harm.**
- **No improvement was noticed during the 2 study periods. On the contrary, more errors were detected in 2010, mainly because of drugs out of the market and wrong drug names.**
- **Eighty percent of the lines of prescriptions had one (or more) of the 15 most frequently prescribed drugs.**
- **A higher proportion of drugs were prescribed as generic names or generics in 2010 (25.2% vs 20.6% in 2005).**
- **Computerized prescription coupled with advanced decision support is eagerly awaited.**

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CONFLICT OF INTEREST Nothing to disclose.

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