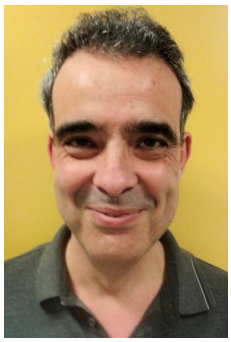

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59 – Improving the Prescribing of Antimicrobial Drugs in Primary Health Care: the Effect of Being Members of a Scientific Society

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Introduction

Unnecessary use of antibiotics plays an important role in increasing bacterial resistance and medical costs as well as in the risk of drug-related adverse events [1]. The most frequent indication for antibiotic prescription in Europe is respiratory tract infections (RTI) [2]. Clinical signs and symptoms are unreliable for distinguishing viral from bacterial RTI [3]. Diagnostic uncertainty increases the likelihood of inappropriate antibiotic prescription and, when in doubt, general practitioners (GP) opt for antibiotic prescription. Compared to other European countries, Spain has historically had a high outpatient antimicrobial consumption rate [4]. We presented an abstract in WONCA 2000 aimed at knowing if GPs who are members of task force groups on the rational use of antibiotics prescribe antibiotics more appropriately than GPs who are not involved in these study groups. The overall consumption of antibacterial drugs in 1997 was lower among the six GPs who were members of a task force compared with the mean prescription of all the GPs in Catalonia (10.1 DID vs. 14.8 DID, respectively). In addition, the former GPs prescribed more penicillins and fewer macrolides and quinolones than their counterparts. A prospective non-randomised controlled before-after study was performed in primary care clinics in 2008 and 2009. This study constituted part of the Happy Audit project, a study financed by the European Commission [5]. A total of 281 FDs throughout Spain participated in this study, with the inclusion of FDs in nine Autonomous Communities. Some of these GPs were members of study groups on the rational use of antibiotics in each of these areas, belonging to the Societies of Family Medicine. We wished to know if the antibiotic prescription of these GPs significantly varies from the remaining GPs in terms of the total amount of antibiotics prescribed for RTIs and the type of antibiotics used.

Methods

All the participants were instructed to fill out a template with all the patients with RTIs during a 3-week period in the winter months of 2008 (first registry) and 2009 after the intervention (second registry), covering a total of 15 working days in both periods. On this sheet the physician attending the patient noted different specific parameters of medical care, including the age and gender of the patient, the number of days of symptoms, presenting signs, diagnosis, performance of chest X-ray, rapid antigen detection tests (RADT) and C-reactive protein (CRP), and antibiotic treatment or not. The intervention consisted of discussion sessions of the results of the first registry, courses for GPs, guidelines, patient information leaflets, workshops on RADT and CRP and use of both rapid tests. A descriptive statistical analysis was performed and significant differences were considered if the p value was <0.05.

Results

Out of the 281 GPs, 42 were members of study groups on the rational use of antibiotics (14.9%). As shown in the table, the percentage of antibiotic prescribing was lower among the members of these groups than in the remaining GPs before the intervention (25.2% vs. 28.2%; p<0.001). This difference was slightly smaller after the intervention (18.2% vs. 20.1%; p<0.05), with a reduction of antibiotic prescribing that was slightly greater among GPs not involved in study groups, with a reduction of 8.1% in this group and of 7% among GPs involved in study groups (no significant differences were observed). After the intervention, GPs belonging to the study groups used the rapid tests more frequently: RADTs were used in 13.3% of the RTIs in this group of GPs compared to the 11.8% observed among the remaining GPs and CRP was also more commonly used by these physicians (10.6% vs. 7.7%; p<0.001). GPs involved in task forces percentually prescribed more penicillin V and amoxicillin than their counterparts and, conversely, they prescribed fewer macrolides, cephalosporins and quinolones. Even though the type of antibiotics prescribed improved after the intervention, this improvement was greater among GPs who were members of study groups on rational use of antibiotics (table).

Table. Total number and type of antibiotics prescribed by the participating FDs before (2008) and after the intervention (2009)

	Members of study groups (n=42)			Other FDs (n=241)		
	Number of RTIs	RTIs treated with antibiotics	%	Number of RTIs	RTIs treated with antibiotics	%
Before the intervention, 2008	2,194	552	25.2	12,879	3,626	28.2
Penicillin V		46	8.3		142	3.9
Amoxicillin		196	35.5		995	27.4
Amox/clav		148	26.8		1,447	39.9
Macrolides		45	8.2		414	11.4
Quinolones		44	8.0		307	8.5
Others		73	13.2		321	8.9
After the intervention, 2009	1,984	362	18.2	10,776	2,168	20.1
Penicillin V		76	21.0		233	10.7
Amoxicillin		111	30.7		646	29.8
Amox/clav		101	27.9		729	33.6
Macrolides		14	3.8		231	10.7
Quinolones		22	6.1		174	8.0
Others		38	10.5		155	7.2

Discussion

The results of this study should be interpreted with caution because of a series of limitations. Firstly, this is a study in which physicians participated voluntarily and, thus, their prescription habits may not be the same as those of general use which GPs globally follow [6]. It was not a clinical trial and the results of this study were based on the data reported by the GPs, and even though these data were not double-checked with the actual prescription, this bias is likely to have occurred in both groups of GPs. The greatest strength of this study is, however, the large number of physicians included. This study demonstrates that baseline antibiotic prescribing is more appropriate among GPs who are aware of the problem of antibiotic resistance and recommend the rational use of antibiotics. The results of this study also show that an intervention aimed at promoting more prudent use of antibiotics for RTIs is able to reduce the prescribing of antibiotics. However, this reduction is greater among general professionals than among physicians who prescribe the antibiotics more rationally at baseline, probably because there is more room for improvement in the first group of GPs, as some qualitative-based studies have pointed out [7]. We are unable to compare the results of this

study with other studies, since there is a lack of studies focusing on the differential habits of prescribing depending on the inclusion of GPs in taskforces that promote a more rational use of antibiotics. The fact that these GPs are more motivated to prescribe fewer antibiotics than other GPs seems logical since they are more aware of the threat of antimicrobial resistance.

Take-Home Messages

- GPs involved in study groups on the rational use of antibiotics are more aware of antimicrobial resistance.
- These primary care physicians prescribe fewer antibiotics and use more narrow-spectrum antibacterials than GPs not particularly interested in the rational use of antibiotics.
- These clinicians also use more rapid tests that can help GPs to better distinguish viral from the bacterial respiratory tract infections.
- An intervention aimed at promoting more prudent use of antibiotics for respiratory tract infections is able to improve the prescribing of antibiotics.
- However, strategies to improve the use of antibiotics seem to be less effective among GPs involved in study groups than in the general population of primary care physicians, mainly because the baseline prescription of antibiotics is much lower.

Original Abstract

http://www.woncaeurope.org/content/133-improving-prescribing-antimicrobial-drugs-primary-health-care

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