

General review

Inventory of antibiotic stewardship programs in general practice in France and abroad

Inventaire des programmes de bon usage des antibiotiques en médecine générale en France et à l'étranger

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Received 9 October 2014; received in revised form 18 December 2014; accepted 28 January 2015

Available online 5 March 2015

Abstract

Objectives. – The authors conducted a survey of measures implemented in France and abroad for a better use of antibiotics in general practice.

Methods. – A literature review was conducted from January 2000 to July 2014. Emails were sent to every infectious diseases department, to all regional health authorities (ARS), to the health insurance offices (CPAM) with the highest and lowest antibiotic use, and to the ministry of health to make an inventory of all antibiotic stewardship programs. The ministry of health, the board of general practitioners, infectious diseases specialists, pharmacists, and the medical and pharmacy schools of the nation's capital were contacted in 17 countries of Europe and North America.

Results. – The main measures implemented in France were training of healthcare professionals, publishing guidelines, feedback to the practitioners on their prescriptions, and availability of rapid diagnostic tests. Telephone networks were created in some regions, such as Antibior or Medqual, to help physicians with antibiotic prescription. Many foreign countries issued pedagogical material to physicians, for patients to explain what to do in case of viral infection or delayed prescription. In Alberta (Canada), the government introduced an optional authorization for quinolones. In Denmark, the government temporarily suspended the reimbursement of some agents to preserve them according to bacterial ecology. In the United-Kingdom, the antibiotic susceptibility test report must include less than 5 agents.

Conclusions. – The measures implemented in France and abroad were usually more persuasive than restrictive. But the bacterial resistance crisis should lead to implementing more restrictive measures.

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Keywords: Antibiotics; Stewardship; Misuse; General practice

Résumé

Objectif. – Recenser les actions déployées en France et à l'étranger pour promouvoir le juste usage des antibiotiques en médecine générale.

Matériel et méthodes. – Revue de la littérature de janvier 2000 à juillet 2014. En France, les services de maladies infectieuses, les agences régionales de Santé, les Caisses primaires d'assurance maladie des régions les plus et les moins consommatrices d'antibiotiques et le ministère de la Santé ont été contactés. Dans 17 autres pays d'Europe et d'Amérique du Nord, les ministères de la Santé, les Collèges de médecins généralistes, de pharmaciens et d'infectiologues, les facultés de médecine et de pharmacie des capitales ont été systématiquement contactés.

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Résultats. – En France, les principaux moyens mis en place sont la formation des professionnels de santé, la diffusion des recommandations, une rétro-information aux généralistes concernant leurs prescriptions, la mise à disposition de tests diagnostiques. Dans certaines régions, des lignes de conseil téléphonique ont été créées (Antibiolor, MedQual, etc.). À l'étranger, beaucoup de pays ont mis à disposition des médecins du matériel pédagogique expliquant aux patients la conduite à tenir en cas d'infections virales ou de prescription retardée. Une province canadienne a introduit des autorisations spéciales facultatives pour les fluoroquinolones. En fonction de l'écologie bactérienne, le Danemark a arrêté temporairement le remboursement de certaines molécules. Au Royaume-Uni, les antibiogrammes rendus comprennent moins de cinq molécules.

Conclusions. – Les initiatives recensées sont surtout incitatives. Mais la situation continue à se dégrader, ce qui doit nous amener à envisager la mise en œuvre de moyens plus restrictifs.

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Mots clés : Antibiotiques ; Bon usage ; Mésusage ; Médecine générale

1. Introduction

On April 30, 2014, the World Health Organization (WHO) published a report on antibiotic resistance: it described it as a serious threat to public health that was no longer forecasted but had become a reality.

It is estimated that more than 25,000 deaths per year, in Europe, are related to infections caused by bacteria that have become multiresistant and for which the available antibiotics are no longer effective [1]. This rate would be 23,000 deaths per year in the United States [2].

The situation is all the more critical that very few antibiotics are under development [1].

The relationship between antibiotic use and emergence of resistant bacteria has been well established [3]. Amoxicillin/clavulanic-acid, third generation cephalosporins (3GC), and fluoroquinolones, frequently prescribed by general physicians for common infections, are especially prone to facilitating the emergence of resistance [4,5].

Antibiotic consumption in France has remained high since France was ranked sixth in the European region in 2011 [6] (behind Turkey, Montenegro, Greece, Cyprus, and Belgium) with an average of 1.5 the European average [7]. This average ranged from 1- to 4-fold among European countries: in the same year, in Turkey, consumption was >40 Defined Daily Doses (DDD) per 1000 inhabitants per year [6], in Greece, it was > 35, in France = 28.7, while in the Netherlands, it was = 11.4. The European average was 19.5 DDD/1000 inhabitants [7]. A global 12.5% decrease in consumption was recorded in France between 2000 and 2012, but consumption has started increasing again in the last 5 years [8].

Antibiotics are overwhelmingly prescribed in the community (90%), where 70% of prescribers are general practitioners (GP) [8].

It is therefore crucial to strengthen measures for antibiotic stewardship in general practice.

We had for aim to identify measures implemented in France and abroad for antibiotic stewardship in general practice. Our results could be useful to guide policy for antibiotic stewardship in France.

2. Materials and methods

We made a review of literature published from January 1, 2000 to August 1, 2014, combining (AND or OR) the following keywords in Medline, Embase, the Cochrane Library, and Google scholar: “anti-bacterial agents”, “antibiotics”, “antimicrobial agents”, “inappropriate judgment”, “misuse”, “prescrib*”, “prescription”, “primary care”, “general practice”, “stewardship”, “improv*”, “reduce”, and “rationalize”. We included only articles in English or French concerning GP in the selected countries.

In France, a mail was sent to identify antibiotic stewardship measures in primary care programs to every infectious diseases department, to the Regional Health Agencies (ARS), to the health insurance offices (CPAM) of the most antibiotic consuming regions: Lorraine (region where this project was born), Nord-Pas-de-Calais, Picardie, Haute Normandie, Île-de-France, and Champagne-Ardenne; and of the least-consuming regions [9]: Rhône-Alpes and Pays de la Loire. An interview with various managers was programmed: face-to-face, by telephone, or by email. A letter was also sent to the Ministry of Health.

A questionnaire was sent to identify actions implemented abroad to all: ministries of health, general practice colleges, infectious diseases societies, community pharmacists societies, general medicine departments of medical schools and schools of pharmacy in nation capitals (or those of secondary cities in case of non-response), authors of major scientific publications identified by the literature review. The following countries were included in the study: Belgium, Canada, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United-Kingdom, and the USA.

Websites, associations or other groups involved in antibiotic stewardship were also contacted. Only telephone conversations, e-mails, or letter exchanges could be made for logistical reasons.

A reminder was sent routinely to all participants, when there was no answer to our request after 1 month. The study period lasted from November 1, 2013 to August 1, 2014.

All parties concerned participated on a voluntary basis without compensation.

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