

IMPLEMENTATION AND INITIAL OUTCOMES OF AN ANTIMICROBIAL STEWARDSHIP PROGRAM AT A COMMUNITY HOSPITAL

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Antibiotic Stewardship Program

Introduction

Antimicrobial stewardship programs (ASPs) have been introduced in several institutions in an effort to use antimicrobials more efficiently. They have shown to reduce antimicrobial resistance, mortality, hospital length of stay and healthcare cost. In Greece antimicrobial resistance remains an urgent public health concern. We describe the implementation of an ASP at a community hospital in Greece, based on the use of a mandatory prescription form and the educational feedback of the prescribers.

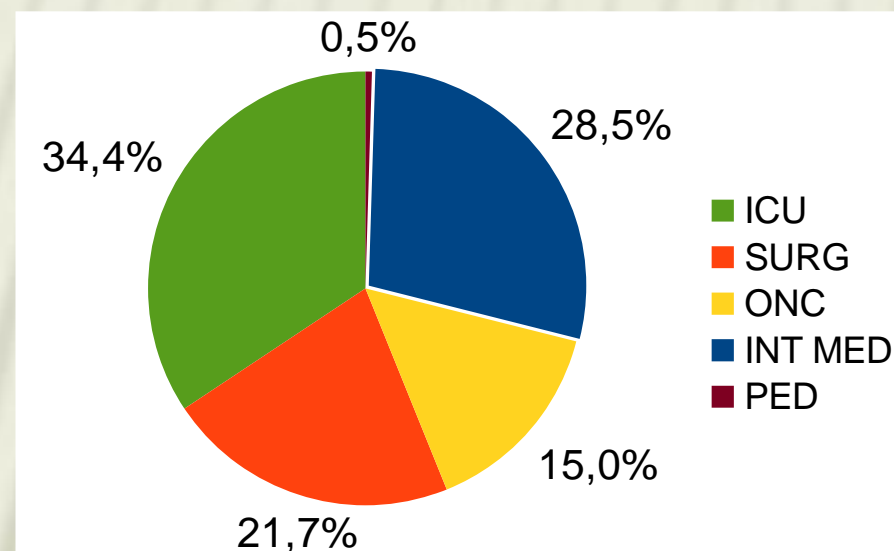
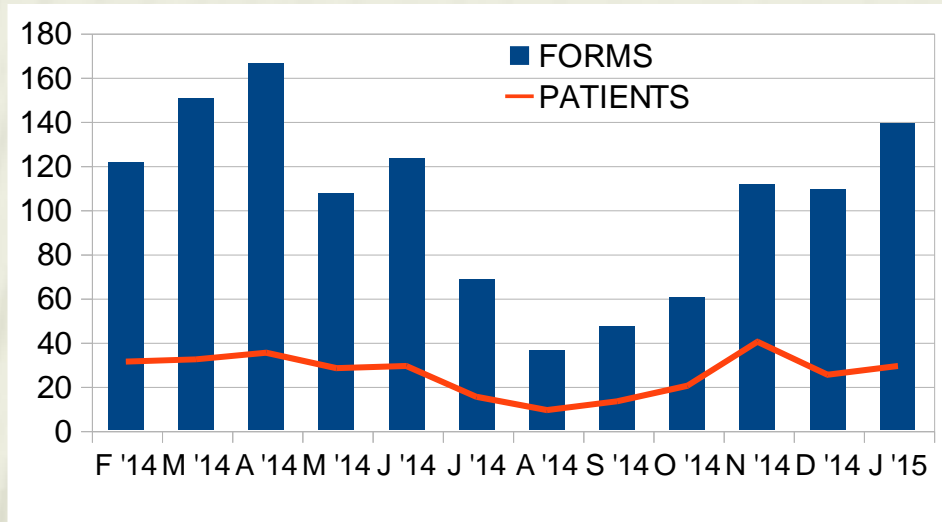
Methods

The program was initiated on February 2014. A new prescription form was introduced for the specific antibiotics: colistin, daptomycin, doripenem, linezolid and tigecycline; every 3 days the form was renewed should the treatment be continued. The form included information about the hospital department, the prescribed antimicrobial, the duration of administration, the site of infection and the obtained cultures with the respective isolated microorganisms. The administration of these antibiotics was approved by the pharmacy department only upon the deposit of the fully completed special prescription form. The antibiotic surveillance committee reviewed the antibiotic prescribing and proceeded to specific remarks with feedback to prescriber physicians. In addition, the Pharmacy Department recorded the consumption of the specific antibiotics in terms of defined daily doses (DDD)¹ for the year before and the first year of ASP implementation.

Reference:

¹ WHO Collaborating Centre for Drug Statistics Methodology, Guidelines for ATC classification and DDD assignment 2013. Oslo, 2012.

Chart 1 presents the number of prescription forms completed per month during the 12-month period of the ASP implementation (Feb 2014-Jan 2015). Chart 2 presents the distribution of the prescribing physician's specialty.



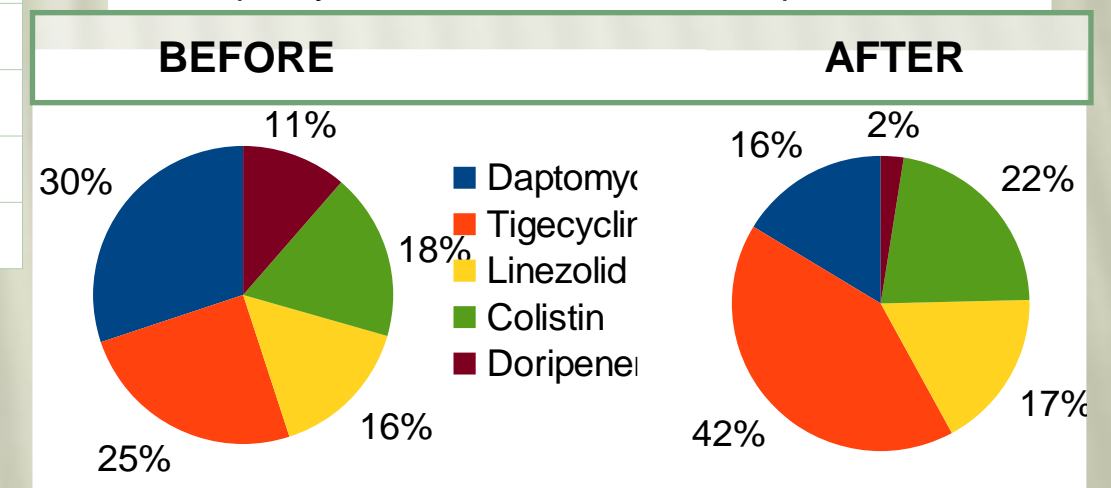
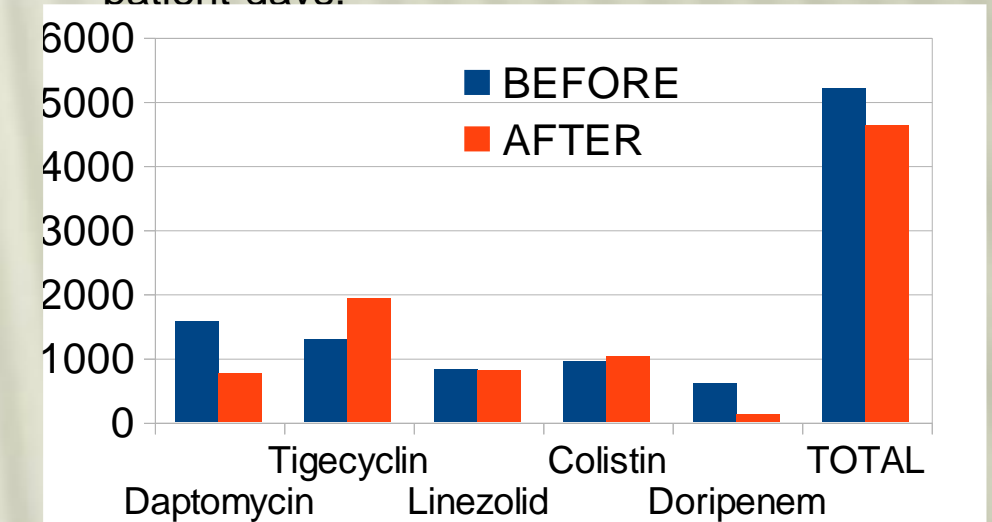
Results

After the first 3 months of the APS, the compliance of the prescribing physicians to the APS rose to a maximum by means of fully completing the forms and not using the specific antibiotics as prophylaxis. (Table 1).

PERIOD	Prophylaxis forms	Incomplete forms	Total No of forms
FEB 2014	0	19	131
MAR 2014	2	16	162
APR 2014	2	50	188
MAI 2014	0	3	125
JUN 2014	0	1	137
JUL 2014	0	0	71
AUG 2014	0	0	44
SEP 2014	0	0	48
OCT 2014	0	0	68
NOV 2014	0	0	125
DEC 2014	0	0	119
JAN 2015	0	0	149
TOTAL	4	89	1367

DDD's	Antibiotic	Dose
	Daptomycin	0,28g
	Tigecyclin	0,1g
	Linezolid	1,2g
	Colistin	9MU
	Doripenem	1,5g

During the first year of the ASP implementation, an optimization of the specific antibiotics use was accomplished: Charts 3 and 4 exhibit the 12-month consumption of the specific antibiotics (in DDDs) before and after the ASP implementation. The overall consumption was reduced by 11%; this result was not altered even after correction for patient-days.



Conclusions

After the implementation of the ASP in the specific institution and the subsequent intervention, gradually a full compliance by the prescribing physicians and the pharmacy department was achieved; in the same time the specific antibiotics were no longer prescribed as prophylaxis. Although some multidrug resistant (MDR) strains of several species are widespread in Greece, after the first year of implementation of the ASP in the specific institution, a reduction of 11% in terms of DDDs was observed in the consumption of the specific antibiotics.