

IMPACT OF THE COVID-19 PANDEMIC ON THE USE OF ANTIMICROBIALS IN PRIMARY AND HOSPITAL CARE

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BACKGROUND AND IMPORTANCE

The characteristics of the patient who requires health care are different between primary care (PC) and hospital care (HC). The COVID-19 pandemic has impacted on public access to health services. Therefore, prescribing patterns and consumption of antimicrobials in both contexts could have changed.

AIM AND OBJECTIVES

To assess the impact of the COVID-19 pandemic on antimicrobial consumption in PC and HC.

MATERIALS AND METHODS

- Descriptive cross-sectional study that evaluated the antimicrobial consumption (ATC J01) in adult patients one year before (March 2019-February 2020) and one year after (March 2020-February 2021) the arrival of COVID-19 pandemic.
- Antimicrobial consumption rates were expressed into defined daily doses (DDD) per 1000 inhabitants-day (DID). In PC we included the reference population of our area and in HC the number of patients discharged. The impact was assessed by the difference in DID between both periods and care settings.
- Data on antimicrobial prescribing in PC were obtained from a public database with anonymised data on the total number of items of each drug prescribed. Hospital data were obtained from the clinical unit of pharmacy.

RESULTS

Between March 2020-February 2021 the antimicrobial consumption decreased -36.0% (7.3 v/s 11.4 DID) in PC and increased +37.5 (16.5 v/s 12.0 DID) in HC, both compared to the same period of previous year.

Antimicrobial prescribed order in PC and HC before and after COVID-19 pandemic arrived

Mar 2019- Feb 2020		Mar 2020- Feb 2021	
PC	HC	PC	HC
amoxicilin	amoxicillin/ clavulanate	amoxicillin/ clavulanate	amoxicillin /clavulanate
amoxicillin/ clavulanate	levofloxacin	amoxicillin	ceftriaxone
doxycycline	piperacillin/ tazobactam	doxycycline	azithromycin
azithromycin	ceftriaxone	ciprofloxacin	piperacillin/ tazobactam
ciprofloxacin	ciprofloxacin	azithromycin	meropenem

% DID variation (in order) PC and HC comparing the COVID period with the previous year

PC		HC	
Antimicrobial	DID	Antimicrobial	DID
penicillin V	- 66.59%	azithromycin	+ 721.42%
amoxicillin	- 52.13%	amoxicillin	+ 602.0%
clarithromycin	- 50.60%	ceftriaxone	+ 184.34%
moxifloxacin	- 45.98%	vancomycin IV	+ 116.9%
levofloxacin	- 44.42%	amikacin	+ 88.79%
amoxicillin/ clavulanate	- 35.55%	cefotaxime	+ 74.83%
azithromycin	- 29.05%	meropenem	+ 52.94%

CONCLUSION AND RELEVANCE

- The COVID-19 pandemic has impacted on the **increase in antimicrobial use in HC** along with a **proportional decrease in PC**
- Antimicrobial prescription patterns in **PC** remain stable. The **increase in amoxicillin/clavulanate** over amoxicillin may be related to non-contact patient care (telemedicine)
- In hospital care, antimicrobial stewardship strategies can help return the consumption broad-spectrum antibiotic to acceptable levels.