# INFLUENCE OF CLINICAL TRIALS ON THE CONSUMPTION OF ANTIBIOTICS IN HOSPITAL

CP-149

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## BACKGROUND

Defined daily dose per 100 occupied bed-days (DDD/100 OBD) is a quality indicator to control antimicrobial use in hospital setting. Information about the impact of clinical trials (CT) focused on infectious diseases in the overall consumption of antimicrobials is lacking.

## PURPOSE

To assess the impact of the antibiotic consumption (AC) from CT performed in Infectious Diseases (ID), General Surgery (GS) and Intensive Care Unit (ICU) departments on the AC of these settings.

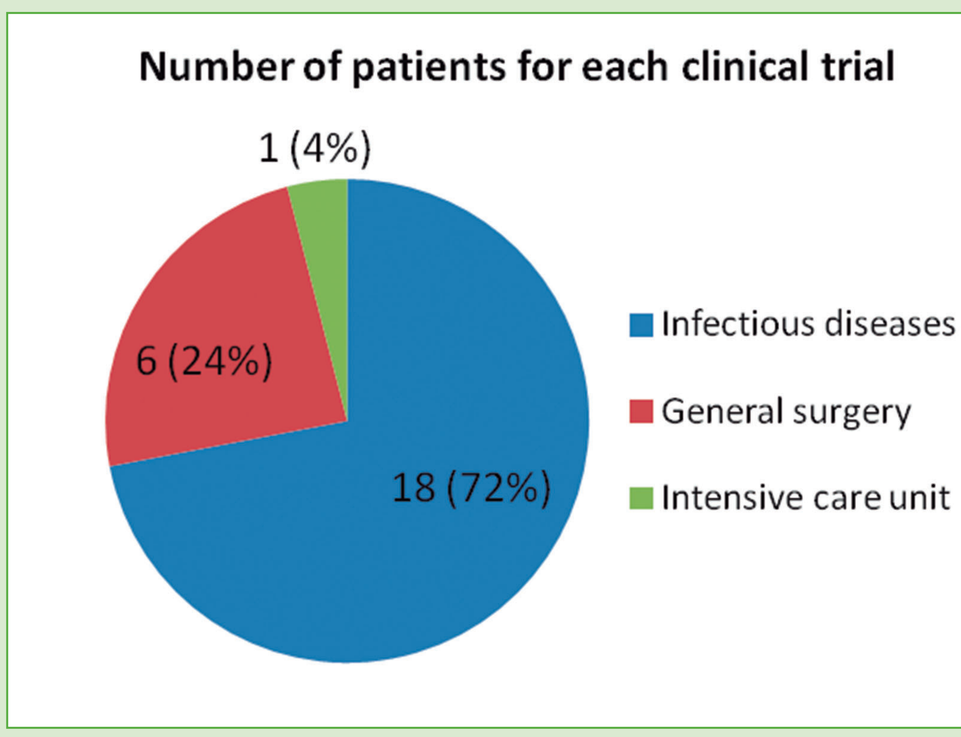
## MATERIALS AND METHODS

Retrospective study performed in an universitary hospital from June 2012-April 2014. Data collected: number of CT with antibiotics in ID, GS and ICU; number of patients for each CT. Overall DDD/100 OBD of AC from hospital and CT were calculated and compared for each department through the standard formula of WHO[1].

DDD/100 OBD for investigational drugs were estimated from the available antibiotics used as comparators.

## RESULTS

| Department | Number of clinical trials (n=5) |
|---|---|
| Infectious diseases | 3 |
| General surgery | 1 |
| Intensive care unit | 1 |




| ANTIBIOTIC | DEPARTMENT | DDD / 100 OBD | | PROPORTION | |
|---|---|---|---|---|---|
| | | CLINICAL TRIALS | HOSPITAL | CLINICAL TRIALS | HOSPITAL |
| CEFTAZIDIME | Infectious diseases | 0,66 | 0,74 | 47,03% | 52,97% |
| | General surgery | 0,09 | 0,50 | 15,22% | 84,78% |
| VANCOMYCIN | Infectious diseases | 0,63 | 2,56 | 19,83% | 80,17% |
| AZTREONAM | Infectious diseases | 0,25 | 0,94 | 20,89% | 79,11% |
| MEROPENEM | Infectious diseases | 0,15 | 5,84 | 2,52% | 97,48% |
| | Intensive care unit | 0,23 | 16,35 | 1,37% | 98,63% |
| | General surgery | 0,12 | 3,03 | 3,76% | 96,24% |
| METRONIDAZOLE | General surgery | 0,06 | 12,08 | 0,49% | 99,51% |
| CIPROFLOXACIN | Infectious diseases | 0,47 | 3,27 | 12,66% | 87,34% |
| SULFAMETHOXAZOLE-TRIMETHOPRIM | Infectious diseases | 0,07 | 3,29 | 1,97% | 98,03% |
| TOTAL | | 2,72 | 48,59 | 5,31% | 94,69% |

## CONCLUSIONS

- DDD/100 OBD of investigational antibiotics from clinical trials should be added to the overall hospital antibiotic consumption data to avoid an underestimation of the antibiotic selection pressure mainly from ceftazidime consumption.
- This indicator should be also used to calculate more accurately the antibiotic consumption in those departments that conduct a high number of clinical trials like the infectious diseases.
- Further studies should be designed to know which actions shoud be triggered from these results.

## REFERENCES

[1]WHO Collaborating Centre for Drug Statistics Methology. ATC/DDD Index 2014. *http://www.whocc.no/atc_ddd_index/*

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