The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS): 2021 results of antimicrobial prescribing for COVID-19 patients in The Philippines

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BACKGROUND & OBJECTIVES

The COVID-19 pandemic has affected antibiotic prescribing and stewardship in hospitals. We aim to describe **antimicrobial prescribing patterns and the use of invasive devices in COVID-19 patients in the Philippines,** using a standardized surveillance method.

METHODS

A point prevalence survey (PPS) was conducted in 2021 in 34 Philippine hospitals (38 completed surveys), using the Global-PPS protocol. Data were collected for all inpatients receiving an antimicrobial on the day of PPS and included details on antimicrobial agents, indications, and a set of quality indicators. Antimicrobial use prevalence was calculated for wards admitting COVID-19 patients. Prescription-level analysis was done for the subset of patients receiving at least one antimicrobial with diagnostic code 'COVID-19'. For these patients, prescriptions with a diagnostic code 'Pneumonia' were also included in the analyses. Information on invasive device use was collected by 31 hospitals.

RESULTS

- **Antimicrobial use prevalence on COVID-19 wards** was 85.6% and 73.8% on intensive care and medical wards, respectively.
- Of 1574 admitted patients, 587 received antimicrobial treatment for COVID-19 (517 medical and 70 intensive care). The median age of these patients was 57 years and 56.7% were male. For this subset of patients, a total of 1136 antimicrobials were prescribed.
- 53.3% of patients received **a combination of systemic antibiotics and antivirals**.
- 31.3% of patients received systemic antibiotics only, and 14.1% received antivirals only.
- Most common medications were **remdesivir** (33.2% of prescriptions), **azithromycin** (18.3%), **ceftriaxone** (15.1%) and **piperacillin-tazobactam** (13.6%) (figure 1). Of 732 prescriptions for systemic antibiotics, the large majority were Watch antibiotics (figure 2).
- **Guidelines** were missing for 6.4% of prescriptions, however, where local guidelines were available, compliance reached 94.9%.
- For 71.2% of patients a **biomarker or white blood cell** (WBC) count was used to inform antimicrobial treatment (41.2% CRP; 8.7% procalcitonin; 21% WBC). Only 16 patients (2.7%) received antimicrobial treatment for a co-infection confirmed by culture results (*K. pneumoniae* 1.2%, *streptococcus spp*. 0.5%).
- Information on **invasive device** use was collected for 500 patients. Overall, 5.8% were on invasive respiratory support and 17.2% were on non-invasive ventilation.

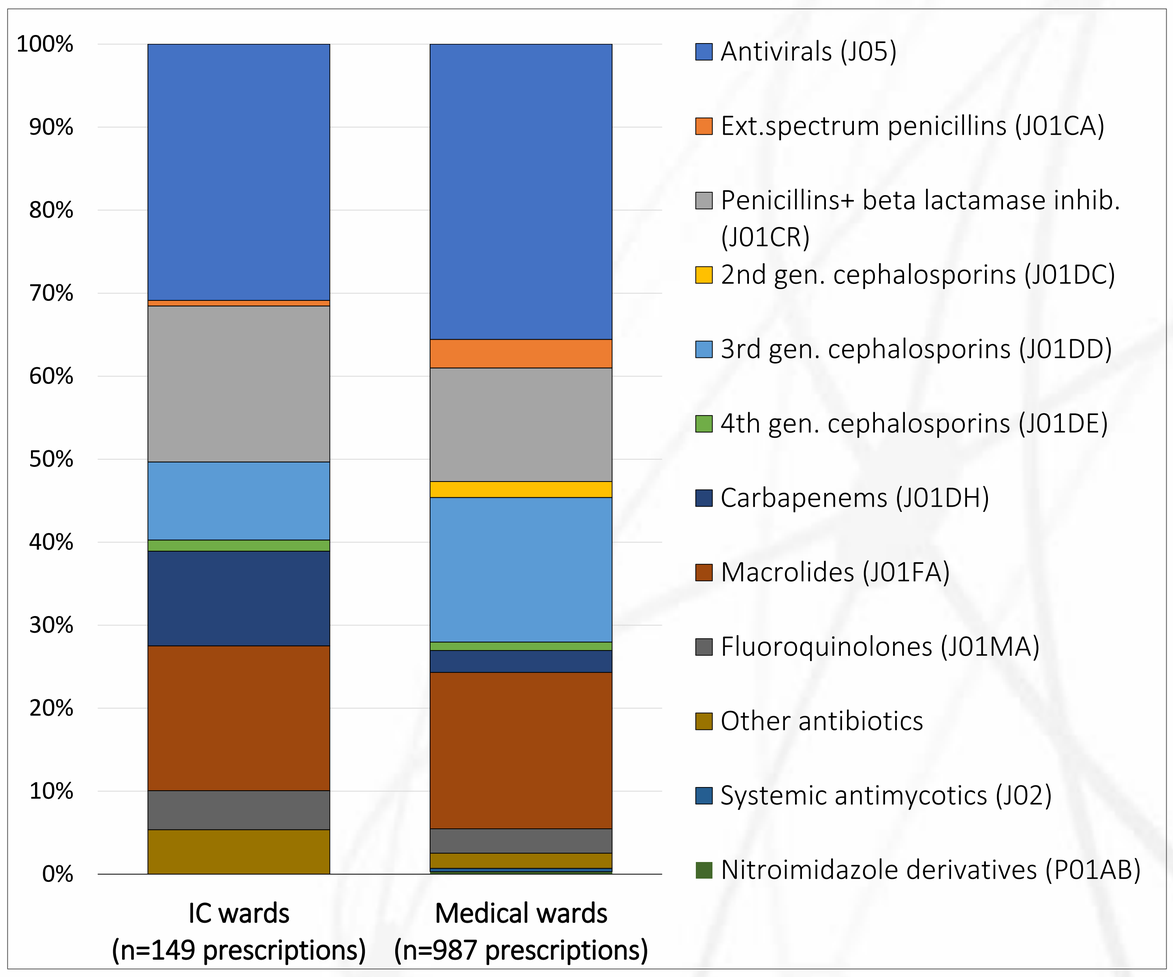

Fig 1. proportional use of prescribed antimicrobials (% of prescriptions)

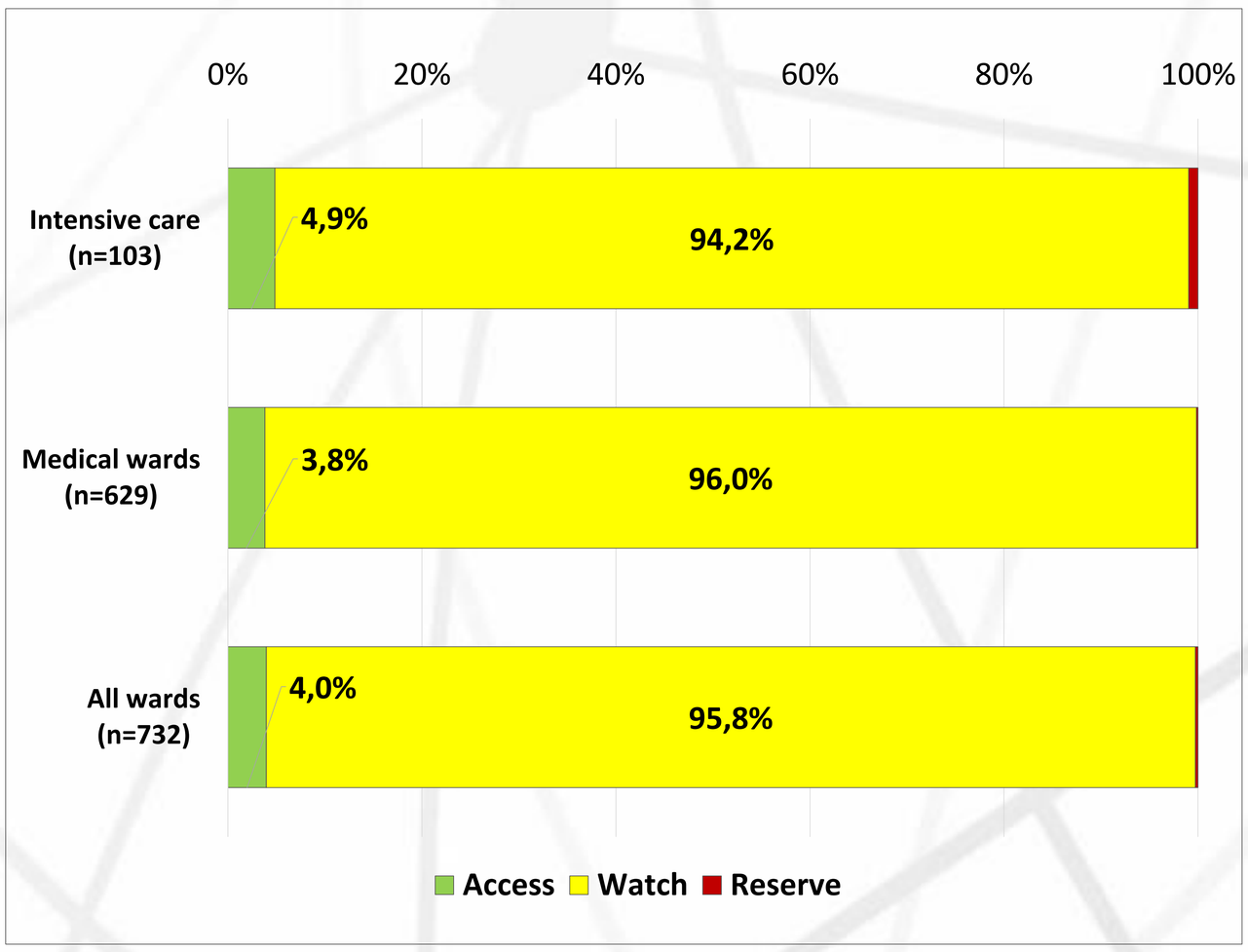

Fig 2. Systemic antibiotic (J01) use according to the WHO AWaRe classification (% of prescriptions)

CONCLUSION

Antimicrobial use prevalence was high on COVID-19 wards, with high prescription rates of broad-spectrum antibiotics, despite the low number of confirmed co-infections among patients on antimicrobials. Antimicrobial stewardship efforts to improve antimicrobial use should be strengthened during the COVID-19 pandemic.

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