

LETTER

Tackling antibiotic resistance during the COVID-19 pandemic is a new challenge for paediatricians

We welcome Pooja et al's comments¹ on our multinational study from Latin America, which reported high rates of antibiotic prescriptions for children with COVID-19 or multisystem inflammatory syndrome in children.² They reinforce our findings by describing their experience in a U.K. centre, reporting that 390/607 (64.3%) children received antibiotics, which was strikingly higher than our study (24.5%). Importantly, 315/390 (80.7%) children received broad-spectrum antibiotics.¹

These findings are extremely relevant for the daily paediatric practice. We are already facing the threat of antimicrobial resistance, and stewardship programmes are needed to improve the quality of prescribing. Our priority is to rationalise our choices and promote the appropriate use of antibiotics. As Pooja et al's state,¹ uncertainty may have led to more antibiotics being prescribed in the early pandemic, despite most children having mild COVID-19. Other childhood respiratory conditions have drastically reduced, which may have simplified differential diagnoses for most paediatricians. However, some patients received antibiotics because of concomitant illnesses.

We expect that most childhood respiratory diseases will circulate again when social distancing restrictions are eased. As most of the children have not been vaccinated, it will be vital to rationally use antibiotics for those that really need them. The first wave caught us unprepared, but we must anticipate future challenges. Telemedicine services and point-of-care tests may allow children to be comprehensively assessed during their first examination. In particular, lung ultrasound has been shown to be sensitive and specific for detecting pneumonia and COVID-19 and is particularly useful for following up both conditions.³ Unfortunately, lung ultrasound is rarely used in some paediatric settings, despite being well-established in paediatric and adult practice.

In our Italian centre, 10/117 (8.5%) children with COVID-19 have received antibiotics, but five had multisystem inflammatory syndrome in children and one also had an asymptomatic *Pseudomonas aeruginosa* infection. Only 4/111 (3.6%) received antibiotics for COVID-19, a much lower percentage than our paper² and Pooja et al's¹ In this context, the routine use of lung ultrasound enabled better characterisation of COVID-19 cases, particularly when the absence of lung consolidation prevented antibiotic use on discharge.

A new pandemic will soon overwhelm paediatrics: multidrug resistant bacteria. We need global awareness and antibiotic stewardship programmes, even during the current pandemic. We fully agree with Pooja et al that antibiotic stewardship strategies must be incorporated into managing all children with COVID-19.

ACKNOWLEDGEMENTS

The COVID_DOMINGO study group are: Omar Yassef Antúñez-Montes, Maria Isabel Escamilla, Augusto Flavio Figueroa-Uribe, Erick Arteaga-Menchaca, Manuel Lavariega-Sárahaga, Perla Salcedo-Lozada, Sunohara RA, Priscilla Melchior, Juan Carlos Tirado-Caballero, Jaime Amadeo Tasayco-Muñoz, Hernando Pinzon-Redondo, Laura Vanessa Montes-Fontalvo, Teresa Ochoa, Francisco Eduardo Campos, Roger Hernandez, Lara Limansky, Olguita Del Aguila, Rolando Ulloa-Gutiérrez, Jessica Gómez-Vargas, Jorge Alberto Rios Aida, Andrea Parra Buitrago, Lina Maria Betancur Londoño, Fadia Uribe

Adriana Yock-Corrales¹Jacopo Lenzi²Martin Brizuela³Piero Valentini⁴Danilo Buonsenso^{4,5,6} 

COVID-DOMINGO Study Group

¹*Pediatric Emergency Department, Hospital Nacional de Niños Dr. Carlos Sáenz Herrera CCSS, San José, Costa Rica*

²*Department of Biomedical and Neuromotor Sciences, Alma Mater Studiorum - University of Bologna, Bologna, Italy*

³*Pediatric Infectious Disease, Hospital Isidoro Iriarte, Quilmes, Argentina*

⁴*Department of Woman and Child Health and Public Health, Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy*

⁵*Dipartimento di Scienze Biotechnologiche di Base, Cliniche Intensivo logiche e Perioperatorie, Università Cattolica del Sacro Cuore, Rome, Italy*

⁶*Global Health Research Institute, Istituto di Igiene, Università Cattolica del Sacro Cuore, Roma, Italia*

Correspondence

Danilo Buonsenso, Department of Woman and Child Health and Public Health, Fondazione Policlinico Universitario A. Gemelli, Largo A. Gemelli 8, Roma 00168, Italy.
Email: danilobuonsenso@gmail.com

ORCID

Danilo Buonsenso  <https://orcid.org/0000-0001-8567-2639>

REFERENCES

1. Paediatric Research Across the Midlands (PRAM) Network. Comment on "High rates of antibiotic prescriptions in children with COVID-19 or multisystem inflammatory syndrome: a multinational experience in 990 cases from Latin America". *Acta Paediatr.* 2021. <https://doi.org/10.1111/apa.15980>
2. Yock-Corrales A, Lenzi J, Ulloa-Gutiérrez R, et al. High rates of antibiotic prescriptions in children with COVID-19 or multisystem inflammatory syndrome: a multinational experience in 990 cases from Latin America. *Acta Paediatr.* 2021;110(6):1902-1910.
3. Musolino AM, Supino MC, Buonsenso D, et al. Lung ultrasound in the diagnosis and monitoring of 30 children with coronavirus disease 2019. *Pediatr Pulmonol.* 2021;56(5):1045-1052.

How to cite this article: Yock-Corrales A, Lenzi J, Brizuela M, Valentini P, Buonsenso D. Tackling antibiotic resistance during the COVID-19 pandemic is a new challenge for paediatricians. *Acta Paediatr.* 2021;110:2650–2651. <https://doi.org/10.1111/apa.15988>