COPENHAGEN 2025

eahp european association of hospital pharmacists

29TH EAHP CONGRESS
12-13-14 MARCH
PERSON CENTRED PHARMACY - NAVIGATING DIGITAL HEALTH

Analysis of the antimicrobial use in neonatal population based on a Defined Daily Dose (DDD) method

P. Suárez Casillas, M. Mejías-Trueba, A.B. Guisado-Gil, C. Villanueva-Bueno, L. Herrera-Hidalgo, E. Varela-Rubio, F. Jiménez-Parrilla, A. López-Gómez, M. López Feijoo, J. Pablo Quintero, M.V. Gil-Navarro.
Hospital Pharmacy Service. Virgen del Rocio Hospital. Seville

BACKGROUND AND IMPORTANCE

Neonates are highly susceptible to infections due to their immature immune systems, resulting in frequent use of antibiotics. This practice carries significant risks, including disruption of the microbiota and increased antimicrobial resistance. **Antimicrobial stewardship programs (ASPs) are critical to optimize antibiotic use.** Because of the WHO-defined Defined Daily Dose (DDD) method is not fully applicable to neonates due to physiological differences, a **neonatal-specific DDD** (DDDn) has recently been developed to accurately monitor and to improve antibiotic practices in this population.

AIM AND OBJECTIVES

This study aimed to **assess the feasibility of using the specifically designed DDDn** as a standardized metric to evaluate antimicrobial use in neonatal units

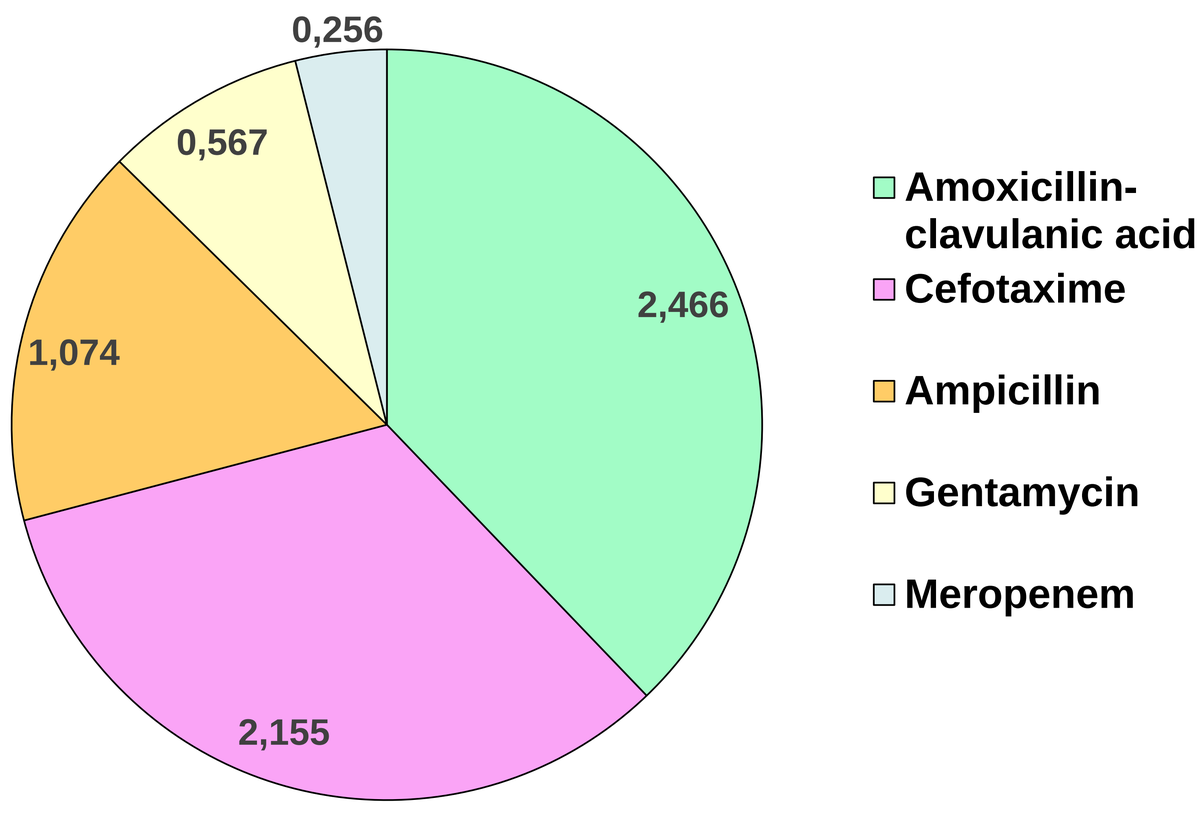
MATERIAL AND METHODS

This observational study was conducted in a Neonatology Unit from **2013 to 2023**. Data on antimicrobial consumption were obtained from the pharmacy database and expressed as **DDDn per 1,000 occupied bed days (OBDs).** DDDn values were initially established in a previous study (1)

RESULTS

The average antimicrobial consumption in the Neonatology Unit was 1.457 DDDs per 1,000 OBDs

Most commonly used antimicrobials (DDDs per 1,000 OBDs)



In contrast, azithromycin (0.054 ± 0.064), cefixime (0.011 ± 0.014) and linezolid (0.003 ± 0,006) were rarely used, as these are antibiotics that are not commonly prescribed in this population.

CONCLUSION AND RELEVANCE

This study demonstrates **the feasibility of using DDDn as a reliable metric to monitor antimicrobial consumption in neonates.** Applying DDDn in ASPs could enhance antibiotic prescribing practices, reduce inappropriate antibiotic use, and help combat antimicrobial resistance.

These findings have important implications **for improving antibiotic stewardship and clinical outcomes** in neonatal care, although further research is required to validate these results across diverse neonatal populations.

1.Villanueva-Bueno C, Montecatine-Alonso E, Jiménez-Parrilla F, González-López M, Manrique-Rodríguez S, Moreno-Ramos F, et al. Dose in Neonatal Population: Validation in the Clinical Practice. Antibiotics (Basel). 2023 Mar 17;12(3):602. doi: 10.3390/antibiotics12030602.

Servicio Andaluz de Salud
CONSEJERÍA DE SALUD

Abstract Number:
6ER-006

Hospital Universitario Virgen del Rocío