

INTISARI

Pneumonia merupakan salah satu penyebab morbiditas dan mortalitas pada anak di bawah lima tahun. Penggunaan antibiotika yang sesuai dengan pedoman tatalaksana dan kebijakan *Access, Watch, Reserve* (AWaRe) WHO diharapkan dapat meningkatkan luaran klinis dan menekan resistensi antimikroba.

Penelitian ini menganalisis kesesuaian penggunaan antibiotika berdasarkan pedoman tatalaksana pneumonia anak dan dampak kesesuaian penggunaan antibiotika tersebut terhadap luaran klinis pasien, serta mengevaluasi implementasi kebijakan AWaRe WHO di Ruang Perawatan Anak RSUD dr. Hendrikus Fernandez Larantuka.

Penelitian menggunakan metode campuran (*mixed methods*) dengan desain *sequential explanatory*. Penelitian kuantitatif dilakukan secara retrospektif menggunakan data rekam medis pasien pneumonia anak periode Januari–Desember 2025. Evaluasi penggunaan antibiotika dilakukan menggunakan metode Anatomical Therapeutic Chemical/Defined Daily Dose (ATC/DDD), Prescribed Daily Dose (PDD), Days of Therapy (DOT), dan Length of Therapy (LOT), kemudian dianalisis kesesuaiannya dengan pedoman. Analisis statistik menggunakan uji Chi-square dan *Odds Ratio* (OR). Penelitian kualitatif dilakukan melalui wawancara dengan dua dokter spesialis anak.

Sebanyak 80 pasien memenuhi kriteria penelitian. Tingkat kesesuaian penggunaan antibiotika terhadap pedoman mencapai 90%. Implementasi kebijakan AWaRe belum optimal karena penggunaan antibiotika masih didominasi kelompok Watch (70,16%), terutama ceftriaxone (21,39 DDD/100 LOS); kelompok Access hanya 28,41%, di bawah target WHO sebesar 60%. Terdapat hubungan yang signifikan antara kesesuaian penggunaan antibiotika dan luaran klinis pasien ($p=0,004$). Wawancara menunjukkan bahwa penggunaan antibiotika dipengaruhi oleh *clinical judgment*, keterbatasan fasilitas mikrobiologi, ketersediaan antibiotika, belum optimalnya implementasi kebijakan AWaRe dan program Antimicrobial Stewardship (AMS).

Penggunaan antibiotika pada pasien pneumonia anak menunjukkan tingkat kesesuaian yang tinggi terhadap pedoman dan berhubungan dengan luaran klinis yang lebih baik. Namun, implementasi kebijakan AWaRe WHO belum optimal karena penggunaan antibiotika masih didominasi oleh kelompok Watch. Penguatan implementasi AMS, peningkatan penggunaan antibiotika kelompok Access, dan dukungan diagnostik

mikrobiologi diperlukan untuk meningkatkan rasionalitas penggunaan antibiotika serta menekan resistensi antimikroba.

Kata kunci: antibiotika, *antimicrobial stewardship*, ATC/DDD, AWaRe, pneumonia anak,



Abstract

Pneumonia is one of the leading causes of morbidity and mortality among children under five years of age. The appropriate use of antibiotics in accordance with clinical practice guidelines and the World Health Organization (WHO) Access, Watch, and Reserve (AWaRe) classification is expected to improve clinical outcomes while reducing antimicrobial resistance.

This study aimed to analyze the appropriateness of antibiotic use according to the clinical practice guidelines for pediatric pneumonia, investigate the association between the appropriateness of antibiotic use and the clinical outcomes, and evaluate the implementation of the WHO AWaRe classification of pediatric pneumonia patients treated in the Pediatric Ward of dr. Hendrikus Fernandes Larantuka Regional General Hospital.

This study employed a mixed-methods approach with a sequential explanatory design. The quantitative phase was conducted retrospectively using the medical records of pediatric pneumonia patients between January and December 2025. Antibiotic utilization was evaluated using the Anatomical Therapeutic Chemical/Defined Daily Dose (ATC/DDD), Prescribed Daily Dose (PDD), Days of Therapy (DOT), and Length of Therapy (LOT) methods, followed by an assessment of adherence to the treatment guidelines. Statistical analyses were performed using the Chi-square test and Odds Ratio (OR). The qualitative phase consisted of in-depth interviews with two pediatricians to further explore factors influencing antibiotic prescribing practices.

A total of 80 patients met the study eligibility criteria. The overall adherence to antibiotic prescribing guidelines was 90%. The implementation of the AWaRe policy has not yet been optimal, as antibiotic use was predominantly from the Watch group (70.16%), particularly ceftriaxone (21.39 DDD/100 LOS), whereas the Access group accounted for only 28.41%, which remains below the World Health Organization target of 60%. A significant association was observed between adherence to antibiotic prescribing guidelines and patients' clinical outcomes ($p=0.004$). Interviews revealed that antibiotic use was influenced by clinical judgement, limited microbiological facilities, antibiotic availability, and the suboptimal implementation of the AWaRe policy and the Antimicrobial Stewardship (AMS) program.

The use of antibiotics in pediatric pneumonia patients demonstrated a high level of adherence to treatment guidelines and was associated with better clinical outcomes.

However, implementation of the World Health Organization (WHO) AWaRe policy has not yet been optimal, as antibiotic use continues to be dominated by the Watch group. Strengthening antimicrobial stewardship (AMS) implementation, increasing the use of Access-group antibiotics, and improving microbiological diagnostic support are necessary to promote the rational use of antibiotics and mitigate antimicrobial resistance.

Keywords: antibiotics, ATC/DDD, antimicrobial stewardship, AWaRe classification, pediatric pneumonia,

