

Title: Nationwide Register-Based Analysis of Pediatric Antibiotic Prescribing for Acute Otitis Media in Finland, 2017–2022

Authors:

Janina Hansas, Péter Csonka, Anna-Leena Vuorinen

Keywords:

Acute Otitis Media, Antibiotic Prescribing, Guideline Adherence, Treatment Failure, Public vs Private Healthcare, Antimicrobial Stewardship

Abstract:

Acute Otitis Media (AOM) is the most common infection in children seeking outpatient care and a major reason for antibiotic prescriptions, up to one third of which may be unnecessary. The overuse of antibiotics contributes to antimicrobial resistance and is associated with children's long-term health consequences.

In this study, we aimed to investigate adherence to national AOM treatment guidelines and the rates of treatment failure in Finland. In particular we analyze differences between private and public sectors.

This nationwide register-based study links data from healthcare notifications, the Social Insurance Institution's prescription and purchase records, and demographic information from the Population Information System. We included children under 18 years old who received a diagnosis of AOM defined by ICD-10 codes H65-H67, between 01-01-2017 and 31-12-2022. Adherence to antibiotic prescribing guidelines was defined as prescription of amoxicillin (ATC code J01CA04), amoxicillin-clavulanic acid (ATC code J01CR02), or no antibiotic. Treatment failure was defined as repeated AOM visits within 30 days with dispensed antibiotic prescription.

There were 297773 children who had at least one AOM episode during the study period. The total number of visits was 744827. Of all visits, 89,4% were guideline adherent; 30,3% involved no antibiotic prescription; 59,0% involved amoxicillin or amoxicillin-clavulanic acid. There was no difference between private and public sector (89,5% vs. 89,0%). Treatment failure was more common in private sector (10,3% vs. 4,9%).

Our preliminary analyses indicate high adherence to clinical guidelines both in private and public sectors. However, treatment failure rates were notably higher in the private sector.