

Delayed Antibiotic Prescription for Children With Respiratory Infections: A Randomized Trial

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Background & Objectives: Antibiotics for Respiratory tract infections (RTIs) in children are overused by pediatricians in many settings irrespective of the initial suspected etiology and is associated with higher adverse effects and increased risk of microbial resistance. **The study compared the effectiveness of Delayed Antibiotic Prescription (DAP) with Immediate Antibiotic Prescription (IAP) and No Antibiotic Prescription (NAP) in children with uncomplicated RTIs.**

Methods: Prospective open labelled, multicenter randomized clinical trial conducted in 39 primary care centers in Spain between June, 2012 and June, 2016, enrolled children aged 2-14 attending OPD with parents with uncomplicated RTIs (Pharyngitis, rhinosinusitis, acute bronchitis, or acute otitis media) and reasonable doubt by attending pediatricians regarding need for antibiotic prescription. 436 children were randomised into one of the 3 antibiotic treatment strategies- IAP (N=148), DAP (N=146) and NAP(N=142). Parents were advised that their child was likely to feel more or less the same for up to 4 days for AOM, days for pharyngitis, 15 days for rhinosinusitis, and 20 days for acute bronchitis regardless of study arm; for those in the delayed arm, parents were instructed to give the antibiotic if their child was not better or got worse after the specified number of days.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



Delayed Antibiotic Prescription (DAP) Or Immediate Antibiotic Prescription (IAP) Or No Antibiotic Prescription (NAP) in children with uncomplicated RTIs.

Results: •Out of total included 436 children [mean(SD) age 6.3 (3.0) years], 224 (51.4%) had acute otitis media, 146 (33.5%) had pharyngitis, 40 (9.2%) had acute bronchitis, and 26 (6.0%) had rhinosinusitis.

•Mean (SD) duration in days of any symptom until disappearance for DAP [8.3 (7.7)] versus IAP [8.3 (7.8)] (P = .968) and NAP [7.9 (9.3)] versus IAP 8.3 (7.8) (P = 0.593) (Poverall = 0.888). Mean (SD) duration of severe as well as moderate symptoms were also similar in all 3 arms. The greatest severity for any symptom on the 7-point Likert scale was similar for the 3 arms, for a median (IQR) score of 3 (2–4) (P=0.619).

•Antibiotic use was significantly higher for IAP (n = 142 [96%]) compared to DAP (n = 37 [25.3%]) and NAP (n = 17 [12.0%]) (P <0.001).

Complications (p=0.813), unscheduled visits to primary care (p=0.895), and parental satisfaction (p=0.389) were similar for all strategies. Gastrointestinal adverse effects were higher for IAP [n=12 (8.8%)] compared to DAP [N=5 (3.4%)] and NAP [n=4 (2.8%)] (P=0.037).

Conclusion: There was no statistically significant difference in symptom duration or severity who received DAP compared to NAP and IAP strategies for children with uncomplicated RTIs. DAP compared to IAP led to greatly reduced antibiotic use and fewer gastrointestinal adverse effects associated with antibiotic intake.

Key message: DAP seems to be an effective strategy in children with uncomplicated RTIs compared to IAP which is associated with reduced antibiotic use as well as decreased adverse effects.

EXPERT COMMENT

“This study confirms the efficacy of delayed antibiotic prescription for uncomplicated RTIs in children compared to immediate antibiotic prescription, resulting in significant reduction in antibiotic usage though no antibiotic prescription with follow up visit (if required) remains the strategy of choice when treating pediatrician feels no need of antibiotic in OPD setting. However, the latter strategy is difficult to follow particularly in resource limited settings where rapid tests are not available to rule out bacterial infections. Hence, DAP seems to be an effective strategy for children with uncomplicated RTIs, both in resource repleted and limited countries”.

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With warm regards,

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Reference

Mas-Dalmau G, Villanueva López C, Gorrotxategi P, et al. Delayed antibiotic prescription for children with respiratory infections: a randomized trial. *Pediatrics*. 2021;147(3):e20201323, DOI: 10.1542/peds.2020-1323.