Comparison of Pediatric Outpatient Antibiotic Prescribing Patterns for Specified Indications in Primary Care Practices

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Published In/Presented At

Spishock, S., Held Wheatley, K., Villalobos-Fry, T. (2015, December 4). *Comparison of Pediatric Outpatient Antibiotic Prescribing Patterns for Specified Indications in Primary Care Practices.* Poster presented at: Midyear Clinical Meeting; American Society of Health-System Pharmacists, New Orleans, LA.
Spishock, S., Held Wheatley, K., Villalobos-Fry, T. (2016, May 2-4). *Comparison of Pediatric Outpatient Antibiotic Prescribing Patterns for Specified Indications in Primary Care Practices*. Poster Presented at: The Eastern States Conference for Pharmacy Residents and Preceptors, Hershey, PA.

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PURPOSE

The objective of this study is to evaluate antibiotic utilization for pediatric patients in the outpatient setting and to describe characteristics related to the patient, prescriber, or specified conditions that may lead to increased antibiotic prescribing.

BACKGROUND

- Antibiotics are the most commonly prescribed medication class in pediatrics, with the use of broad-spectrum antibiotics for pharyngitis on the rise.[1,2]
- Efforts to decrease antibiotic use for conditions where they are not indicated in the pediatric population and research on this subject have been mainly focused on the inpatient setting.[1]
  - Guidelines written by the Infectious Diseases Society of America acknowledge the importance of improving outpatient antibiotic use, but do not specify interventions or recommendations on the implementation of an outpatient antimicrobial stewardship program due to a lack of data in this area.[3]
- An outpatient antimicrobial stewardship intervention, consisting in part of clinician education, has been shown to significantly reduce off-guideline antibiotic use.[4]
  - Decreasing guideline-discordant broad-spectrum antibiotic use is an area where improvement is necessary, as broad-spectrum third-generation cephalosporins are often utilized for conditions where they are not indicated in the pediatric outpatient setting.[5]
- Provider specialty can also be a factor in increased antibiotic prescribing.
  - Past studies have shown that family medicine providers are more likely to prescribe antibiotics for conditions not requiring antibiotic therapy than general internal medicine providers or pediatric specialists.[6,7]
- The results of this study may be utilized to implement a clinical education program aimed to improve outpatient antimicrobial utilization in the pediatric population.

STUDY DESIGN

- Retrospective chart review of outpatient encounters
- Inclusion criteria
  - Age 1 month to less than 18 years
  - Outpatient encounter for diagnosis of upper respiratory tract infection (including common cold), bronchitis, bronchiolitis, and/or pharyngitis between March 2, 2015 and September 1, 2015
- Exclusion criteria
  - Neonates <30 days postnatal age
  - Other identified bacterial infection or ongoing bacterial infection coded during same outpatient encounter as above diagnoses
  - Patients with complex chronic conditions[8]
- The primary outcome of this study will be to calculate the percentage of encounters which resulted in an antibiotic prescription out of all encounters for the conditions specified for which an antibiotic is not indicated.

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Disclosure:

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

- Samantha Spishock – nothing to disclose
- Kristin Held Wheatley – nothing to disclose
- Tibisay Villalobos-Fry – nothing to disclose

METHODS

- Office encounters for specified conditions between March 2, 2015 and September 1, 2015 will be reviewed for pediatric patients within Lehigh Valley Physician Group (LVPG) practices that utilize the electronic health record (EHR), Epic.
- An antibiotic prescription for any of the specified conditions will be considered non-indicated.
- Our goal will be to include at least 60 different providers, each having a minimum of 5-10 encounters for a specified condition for pediatric patients during the designated time period.
- Data to be collected will include:
  - Patient age, gender, and health insurance coverage
  - Provider specialty, practice site, practice location (urban, suburban, or rural),[9] and level of provider training
  - Date of encounter, diagnosis assigned, and whether or not an antibiotic was prescribed at the encounter
  - Antibiotic class if an antibiotic was prescribed
- The percentage of overall encounters which resulted in an antibiotic being prescribed will be reported. Descriptive statistics will be used to summarize the characteristics of the encounters as a whole, such as patient age, gender, type of insurance coverage, season of the year in which the encounter occurred, the diagnosis, and the type of antibiotic if one was prescribed.
- The percentage of encounters that were with a pediatric provider and a family medicine provider will be reported.