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Audit of Antibiotic Prescriptions in a Tertiary Care Children Hospital

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Editorial

We conducted an audit of antibiotic prescriptions written in the outpatient department of our hospital which is a Tertiary Care Pediatric Teaching Institute. For the hospital caters to around 200 to 250 patients per day. The outpatients are seen by seven different pediatric medical consultants.

Outpatient data are usually entered in EMR system the data was analyzed for commonest antibiotic prescribed, commonest indication for antibiotic, and adherence to consensus statements.

A total of 2,290 out patients were seen between June 2019 to December 2019. Out of these 1,200 received antibiotic prescriptions out of which only 914 could be captured with complete patient details.

Acute Sinusitis was the commonest condition seen in 460 children. Among the 460 patients 320 were prescribed Amoxycillin, 120 were prescribed Amoxyclavulanate and 20 were prescribed Cefpodoxime. The duration ranged from 10 to 14 days in most cases.

Acute Otitis Media was diagnosed in 90 children based on history and Otoscope findings and Amoxycillin was prescribed in 65 children and Amoxclavulanate in 25 children. The duration was 1 week.

Acute Pharyngitis was seen in 60 children out of whom 42 were diagnosed using RADT and 18 were diagnosed clinically. The 52 children were treated with Amoxycillin and 8 were treated with Azithromycin.

Urinary Tract Infection was seen in 82 children. All the 82 were diagnosed based on clinical symptoms and urine routine examination. Urine culture was sent in all the 82 children and pending cultures Cefixime was prescribed.

A diagnosis of Probable Enteric fever was made in 60 children based on history, clinical findings and complete blood count reports. Pending cultures 42 were prescribed Azithromycin and 18 were prescribed Cefixime.

Community Acquired Pneumonia was diagnosed in 82 children based on history, clinical findings and radiological examination. The 52 children were prescribed Amoxycillin, 22 children were prescribed amoxclavulanate and 8 children were prescribed Cefpodoxime. The 22 children received Azithromycin in addition to Amoxycillin and Moxclavulanic acid.

Acute Colitis was diagnosed in 40 children based on history and clinical examination. Out of which 28 were prescribed Cefixime and 12 were prescribed Azithromycin.

Pyoderma and Impetigo were diagnosed in 20 children out of which 14 received Cephalexin and 6 received Amoxycillin.

In the present study, Acute Sinusitis accounted for about 50% of antibiotic prescriptions. In a study done by Fleming et al. [1,2] at the US Physician Offices, Acute Respiratory Infections (ARIs) were the major drivers of inappropriate antibiotic use. ARIs accounted for 44% of antibiotics and Azithromycin was the most commonly prescribed antibiotic. In the present study Amoxycillin was the commonest antibiotic that was prescribed for ARIs as per IDSA guidelines.

In a descriptive study using national prescribing data, Hersh et al. [3], found that among the three most common conditions leading to antibiotic prescriptions in the United States, acute otitis media, sinusitis, and pharyngitis. In the present study AOM accounted for 10%, Sinusitis 50% and pharyngitis 6%.

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Knowledge of guideline recommendations of antibiotic indications is the foundation of appropriate antibiotic prescribing. Lack of knowledge could lead some clinicians to prescribe antibiotics inappropriately. However, a qualitative study by Sanchez et al. [4] of 36 clinician interviews found that clinicians are generally familiar with guideline recommendations for common outpatient conditions.

The qualitative studies by Sanchez et al. [4] and Dempsey et al. [5] also found that clinicians' perception that when patients want antibiotics it drives them to inappropriately prescribe antibiotics.

In another qualitative study of clinician attitudes by Szymczak et al. [6] pediatricians reported that they sometimes prescribed antibiotics for social reasons, such as wanting to please parents.

A 2,001 mixed-methods study by Mangione-Smith et al. [7] of 295 parents at two pediatric practices found that overt requests for antibiotics occurred in only 1% of visits, yet clinicians perceived expectations for antibiotics in 34% of visits.

We have planned on various outpatient antibiotic stewardship interventions strategies like justification of the diagnosis in the EMR and prescription, continuing medical education on IDSA guidelines and antibiotic stewardship. We hope to see a reduction in antibiotic prescriptions after implementation of these core strategies. Using antibiotics appropriately is an important component of best patient care and should be a cornerstone of effective outpatient practice.

References

1. Fleming-Dutra KE, Hersh AL, Shapiro DJ. Prevalence of inappropriate antibiotic prescriptions among us ambulatory care visits, 2010-2011. JAMA. 2016;315(17):1864-73.
2. Sanchez GV, Shapiro DJ, Hersh AL, Hicks LA, Fleming-Dutra KE. Outpatient macrolide antibiotic prescribing in the United States, 2008-2011. Open Forum Infect Dis. 2017;4(4):ofx220.
3. Hicks LA, Bartoces MG, Roberts RM, Suda KJ, Hunkler RJ, Tylor TH, et al. US outpatient antibiotic prescribing variation according to geography, patient population, and provider specialty in 2011. Clin Infect Dis. 2015;60(9):1308-16.
4. Sanchez GV, Roberts RM, Albert AP, Johnson DD, Hicks LA. Effects of knowledge, attitudes, and practices of primary care providers on antibiotic selection, United States. Emerg Infect Dis. 2014;20(12):2041-7.
5. Dempsey PP, Businger AC, Whaley LE, Gagne JJ, Linder JA. Primary care clinicians' perceptions about antibiotic prescribing for acute bronchitis: A qualitative study. BMC Fam Pract. 2014;15:194.
6. Szymczak JE, Feemster KA, Zaoutis TE, Gerber JS. Pediatrician perceptions of an outpatient antimicrobial stewardship intervention. Infect Control Hosp Epidemiol. 2014;35(3):69-78.
7. Smith RM, McGlynn EA, Elliott MN, McDonald L, Franz CE, Kravitz RL. Parent expectations for antibiotics, physician-parent communication, and satisfaction. Arch Pediatr Adolesc Med. 2001;155(7):800-6.