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Acute Sinusitis and Pharyngitis as Inappropriate Indications for Antibiotic Use

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We read with interest the study by Donnelly and colleagues (1) which explored antibiotic prescriptions for ambulatory emergency department (ED) visits in the United States. As public health researchers, we agree with the authors' assertion that their findings "highlight opportunities for reducing inappropriate antibiotic use among adult ED ARTI [acute respiratory tract infection] patients and for optimizing treatment for antibiotic-appropriate ARTI" (1). However, these study results should be interpreted with one important clarification regarding the categories in which infections were classified.

In this work, the authors define "antibiotic-appropriate" ARTIs as otitis media, sinusitis, pharyngitis, and nonviral pneumonia. However, it is well established that sinusitis and pharyngitis are caused predominantly by viral pathogens. In acute rhinosinusitis, for instance, the incidence of bacterial infections is estimated to be only 2% to 10%, with a secondary bacterial infection occurring in approximately 0.5% to 2% of adult cases (2). Similarly, group A streptococcal (GAS) pharyngitis, the primary indication to treat a sore throat with an antibiotic, accounts for only 5% to 15% of cases among adults and 20% to 30% of such visits for children (3). Recent clinical practice guidelines emphasize using strict diagnostic criteria to establish a bacterial diagnosis for these infections, as well as the use of first-line targeted antibiotics, such as penicillin and amoxicillin (2, 4).

Aside from the classification of diagnoses, we recommend that the authors consider excluding visits involving diagnoses or conditions which may warrant more-frequent antibiotic prescribing, particularly visits by patients with comorbid conditions suggesting immunosuppression. Since ED settings often draw patients with high-acuity conditions, it is important to separate out patients who would potentially be managed differently. The Get Smart: Know When Antibiotics Work program (www.cdc.gov/getsmart) acknowledges the important role that ED health care providers play in promoting appropriate antibiotic use among outpatients. Misclassifying diagnoses as "antibiotic appropriate" when the majority of such infections are viral may send the wrong message to readers and inadvertently undermine the broader public health initiative to improve appropriate antibiotic use.

Regardless of the classification of diagnoses, Donnelly and colleagues demonstrated that antibiotic prescribing remains unacceptably elevated, highlighting a greater need for antibiotic stewardship in EDs in the United States. We concur with the authors' conclusion that further investigation is needed to clarify best practices for implementing antibiotic stewardship practices within this unique health care setting.

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