

Evaluation of an Antibiotic Stewardship Program in a University Health Center

LeAnn Holmes, DNP, FNP-BC, FAANP, Leeza Struwe, PhD, RN, and Nancy Waltman, PhD, ANP-BC

ABSTRACT

This pilot study evaluated the effectiveness of an antibiotic stewardship program at a university health center for changing provider intentions about antibiotic use and decreasing antibiotic prescriptions for acute rhinosinusitis and bronchitis. The program included strategies for patient education and negotiation, with an instrument to assess intentions of providers toward antibiotic use and perceptions of patient satisfaction with care before and after the program. Providers wrote fewer prescriptions for acute sinusitis 2 months after the program and expressed intention to be more judicious with future prescribing. This program was feasible, was not costly to implement, and appeared to have an impact on provider practice.

Keywords: antibiotic stewardship, prescribing attitudes and intentions

© 2017 Elsevier Inc. All rights reserved.

The Centers for Disease Control and Prevention (CDC) states at least 30% of antibiotics prescribed on an outpatient basis, most of which are for viral upper respiratory infections (URIs), are unnecessary.¹ Antibiotics for URIs have not generally been shown to reduce symptoms or the duration of illness.²

Acute rhinosinusitis and bronchitis are often treated with antibiotics, but the CDC recommends against treating acute bronchitis empirically with antibiotics.³ The Infectious Disease Society of America believes antibiotics are prescribed too often for sinus infections, 90% to 98% of which are viral and do not improve with antibiotics.⁴ UpToDate cites an even lower percentage of bacterial sinusitis at 0.5% to 2%.⁵

In August 2010, the CDC, World Health Organization, and National Physicians Alliance stated that decreasing antibiotic prescribing for sinusitis is 1 of the top 5 practices for good stewardship in family clinical practice.² Despite these recommendations, providers continue to prescribe antibiotics for URIs (in 1 study, for 38%–72% of patients⁶).

Stewardship programs have been developed to promote appropriate use for infections, including URIs. Still, research on the effectiveness of stewardship programs is limited; a lack of consistency in methodology makes replication difficult, with no

theoretical framework and little differentiation among URIs. Few include educating providers on patient communication.

STUDY PURPOSE

This pilot exploratory study evaluated an antibiotic stewardship program developed at a university health center (UHC) for changing provider attitudes toward antibiotic treatment and decreasing prescriptions for acute rhinosinusitis and bronchitis. The program included informing providers about 1) the critical necessity for antibiotic stewardship and 2) how to negotiate with patients who request antibiotics.

ORGANIZING FRAMEWORKS

An educational program and discussion based on Fishbein and Ajzen's theory of reasoned action helped providers change attitudes about antibiotic stewardship and intentions to reduce prescribing. According to Fishbein and Ajzen, attitude and intention determine behavior ". . . irrespective of the nature of the behavioral Criterion."⁷ Numerous studies support correlations among attitudes, intentions, and behavior,⁸ but none used their theory as a framework in developing antibiotic stewardship programs.

The negotiation strategies for providers were based on Dr. Ann Marie Hart's concept of *balancing*

acts, weighing best practices against patient satisfaction when prescribing antibiotics for URIs.⁹ Stewardship strategies included patient education, symptom management, reassurance, expectations, and follow-up. Providers could *hold firm* and not prescribe antibiotics, *give in* and write a prescription, or *delay treatment* by recommending a 48- to 72-hour wait before requesting antibiotics. The concept was developed from findings of a qualitative descriptive study interviewing 21 Western United States primary care providers⁹; no studies evaluated the effectiveness of balancing acts to reduce antibiotic use.

LITERATURE REVIEW

Antibiotic Stewardship Programs

The United States Department of Health and Human Services/CDC has developed recommendations for “Core Elements of Outpatient Antibiotic Stewardship,” which include fostering commitment, implementing at least 1 practice change, offering feedback to providers, and providing education to clinicians and patients.¹⁰

The following summarizes the results of 3 systematic reviews of research on antibiotic stewardship programs.¹¹⁻¹³ Most studies described prescribing for rhinosinusitis; few were specific for bronchitis. Stewardship programs included both provider interventions and patient education. Provider interventions included education on clinical prescribing guidelines, communication skills training, encouraging the delaying of prescribing, restrictions on the use of certain antibiotics, and financial incentives for providers. Interventions that included both provider and patient education were most effective in reducing antibiotic use. Studies also found that provider education should include the use of evidence-based algorithms in making decisions about antibiotic use.

METHODS

Study Design and Participants

A quasi-experimental repeated measures design study determined the effectiveness of an antibiotic stewardship presentation in changing provider attitudes and intentions toward antibiotic use and decreasing prescriptions for acute rhinosinusitis and bronchitis.

Setting

The UHC was useful for the project setting. Thirteen percent of all visits to this UHC are related to acute rhinosinusitis and bronchitis. While providing care, UHC providers educate about the appropriate use of health care and how to make informed care decisions.

Sample

The sample included full-time providers at a UHC in 1 Midwestern state (ie, 3 physicians, 2 nurse practitioners, and 2 physician assistants).

Intervention

The antibiotic stewardship intervention was an active provider intervention. A 60-minute medical staff meeting was held and facilitated by the investigator. The meeting included a PowerPoint (Microsoft, Redmond, WA) presentation on appropriate antibiotic prescribing for acute rhinosinusitis and acute bronchitis using clinical pathways developed by Jenkins et al.¹⁴ Further education was provided on the balancing acts of antibiotic prescribing including patient education, negotiation strategies, holding firm, and giving in.⁹ Providers then participated in a facilitated discussion led by the researcher of 5 patient care scenarios based on the research of Scott et al¹⁵ regarding ways patients pressure providers for antibiotic prescriptions. Discussion centered on how the balancing acts can be used for each of these scenarios. In addition to the presentation and discussion period, participants were provided handouts of evidence-based algorithms for making decisions about antibiotic use.

Measures

Antibiotic Stewardship Survey. A preliminary 24-item instrument based on Fishbein and Ajzen⁷ and a literature review on attitudes, intentions, and behaviors was developed to measure 1) provider attitudes about antibiotic resistance and intentions for antibiotic use in acute rhinosinusitis and bronchitis and 2) provider perceptions of patient satisfaction with care when antibiotics are or are not prescribed. Providers scored agreement with the items using a 1 to 9 Likert scale, with 1 indicating strong agreement and 9 strong disagreement. Construct validity and

Download English Version:

<https://daneshyari.com/en/article/8573195>

Download Persian Version:

<https://daneshyari.com/article/8573195>

[Daneshyari.com](https://daneshyari.com)