Characterizing Antibiotic Use in a Free Primary Care Clinic

Stefanie E. Kramer PharmD Candidate 2024; Kendall J. Tucker PharmD, MS, BCPS, BCIDP; and Kimmy Nguyen PharmD, BCACP, BC-ADM, TTS
Wilkes University, Nesbitt School of Pharmacy

Introduction

- Antibiotic resistance causes 35,000 deaths per year in the United States[1]
- 80% of antibiotics are dispensed from outpatient settings, like primary care clinics, urgent care centers, and community pharmacies
  - 50% of these prescriptions are considered *inappropriate*

Inappropriate = Receiving an antibiotic when one is not indicated
= Prescribed an antibiotic that is not effective for the indication

- Inpatient settings place emphasis on antibiotic stewardship
- There is limited information on antibiotic stewardship in the free clinic setting

Objective

Characterize data on antibiotic prescriptions in a free primary care clinic

Methods

Design:
- Retrospective, single-center descriptive study

Location:
- Free, non-profit clinic in Wilkes-Barre, PA

September 1, 2021 — September 27, 2022

Population:
- Patients aged ≥18 years who received an antibiotic prescription from a clinic provider

Exclusion criteria
- Antibiotic prescription ordered by a non-clinic provider

Data Collection

Antibiotic Class | Indication | Duration of Therapy | Drug Allergies | Allergic Reaction

Results

- Out of a total of 3,422 prescriptions, 195 were antibiotics
- Penicillins accounted for the majority of antibiotic prescriptions
- Dental pain was the most common antibiotic indication

Patient Demographics (n = 195)	
Female, n (%)	122 (63)
Age (median, years)	42
Treatment Duration (median, days)	7
Comorbid Conditions	
Diabetes	31 (16)
Asthma	11 (6)
COPD	4 (2)
Antibiotic Allergy	
None	174 (89)
Penicillins	13 (7)
Azithromycin	3 (2)

Figure 1. Antibiotic Indications

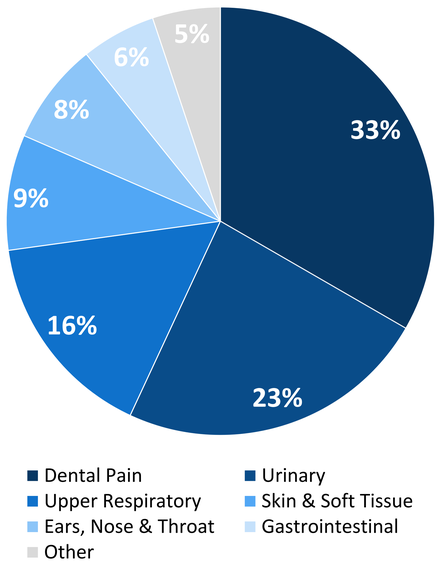
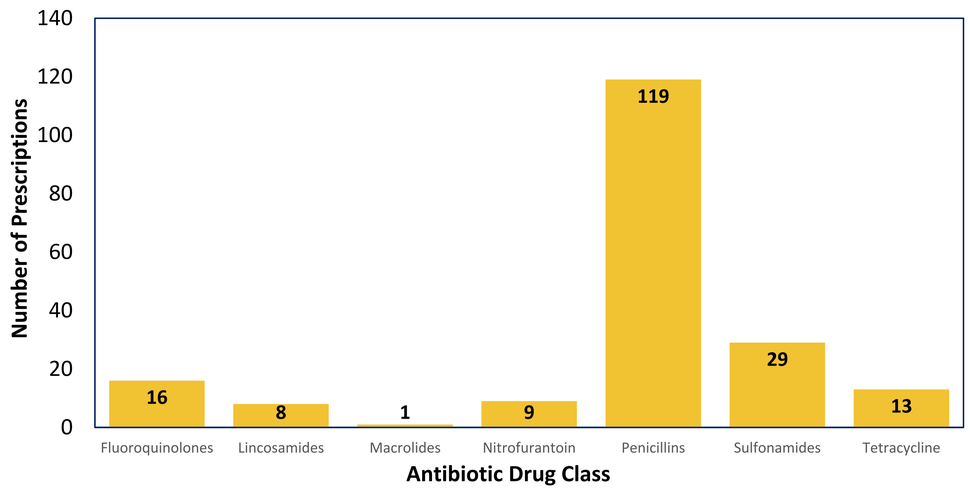


Figure 2. Prescriptions by Antibiotic Class (n=195)



Discussion

- Approximately 33% of prescriptions were ordered for dental pain, which may be inappropriate
- According to the 2019 American Dental Association (ADA), antibiotics are not recommended for dental pain
- The ADA recommends dental treatments as first-line interventions and reserve antibiotics for systemic signs of infection[2]
- Implementation of antibiotic stewardship in these areas may lead to more appropriate prescribing and improved patient care

Limitations

- Data collected from a a single site
- Timeframe focused on one year of data
- Inconsistent documentation of prescriber rationale behind antibiotic prescribing for a given indication

Conclusion

Pharmacists can play a pivotal role in the outpatient setting by emphasizing antibiotic stewardship, prescriber training, and appropriate antibiotic usage.

Future studies should evaluate appropriateness of antibiotics in this setting and consider implementation of antimicrobial stewardship to improve patient outcomes.

References

1. CDC. Antibiotic Resistance Threats in the United States, 2019. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2019.
2. Lockhart PB, Tampi MP, Abt E, et al. Evidence-based clinical practice guideline on antibiotic use for the urgent management of pulpal- and periapical related dental pain and intraoral swelling. *Journal of the American Dental Association*. 2019. Available from: https://doi.org/10.1016/j.adaj.2019.08.020

Contact Information

Stefanie Kramer, PharmD Candidate 2024
Email: Stefanie.kramer@wilkes.edu
IRB Approval Number: 540

Disclosure: Authors of this poster have nothing to disclose