Focused Outpatient Antibiograms: Time for Widespread Implementation?

Sabina Manandhar, MD[1]; Paul P Cook, MD[1]; Heather M Duncan[2], MPH; Michael D Schwartz[3], Pharm D
[1]Division of Infectious Diseases at Brody School of Medicine at East Carolina University, Greenville, NC
[2]Vidant Medical Center, Greenville, NC; [3]College of Allied Health Sciences, Greenville, NC

Sabina Manandhar, MD
2390 Hemby Ln
Greenville, NC, 27834
Email:
manandharsabina01@gmail.com
Office: 252-744-4500
Fax: 2527445713

BACKGROUND

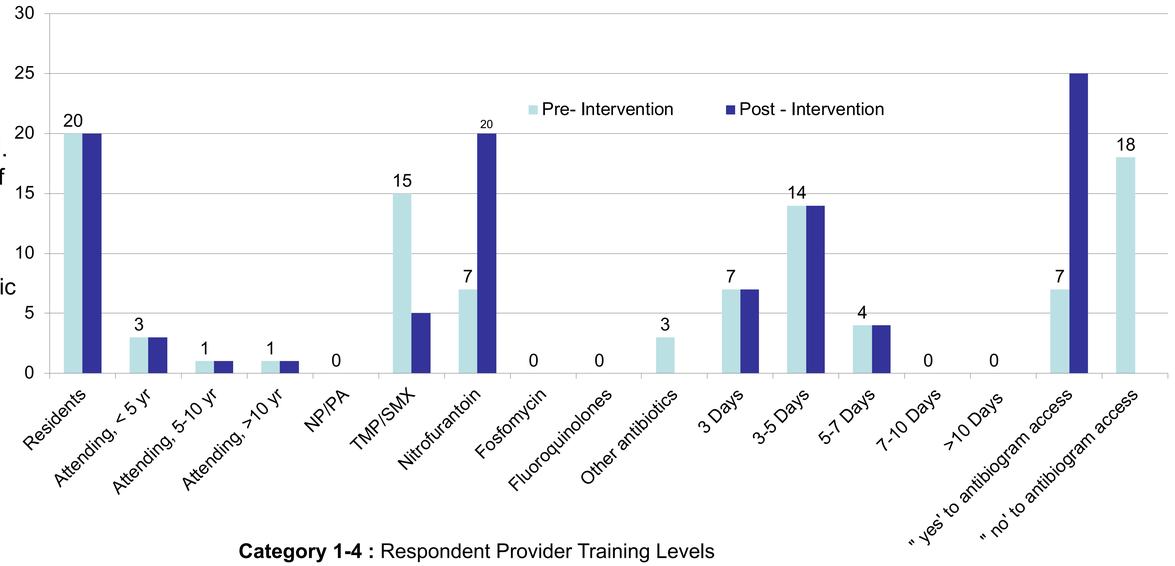
- Recent data show over 260 million annual prescriptions in U.S. Family practitioners prescribed the most antibiotic courses (24%)[1].
- Urinary Tract Infections (UTI) comprise one of the most common indications for antibiotics.
- In this study, antibiogram data were compiled for urinary isolates of *E coli* collected from all outpatients as well as Family Medicine-specific (FM) clinics in an academic medical center in Eastern NC.

OBJECTIVE

- To identify susceptibility variations for *E. coli* from urine isolates specific to combined outpatient and academic FM clinics compared to composite non-ICU institutional data.
- To assess impact of providers' knowledge/access to a focused antibiogram on choice of empiric therapy.

METHODS

- Data were electronically obtained from the microbiology laboratory at Vidant Health (VH).
- All urine cultures with *E. coli* from 9/2018 - 9/2019 were included.
- Two focused antibiograms were then developed via MedMined (Carefusion, Brimingham, AL)
- Fisher's exact test was used to determine differences in antibiotic susceptibilities between the hospital and Family Medicine antibiograms as well to determine differences in empiric treatment for UTIs.
- A pre and post intervention survey was conducted with FM practitioners, including residents.
- Intervention was defined as a brief presentation to educate providers about variations identified via focused antibiograms.
- Survey results were compared to assess for intent to change practice.



Category 1-4 : Respondent Provider Training Levels
Category 5-9: Preferred Empiric Antibiotic
Category 10-14: Typical Duration of Therapy Prescribed
Category 15-16: Access to Outpatient Antibiogram among Providers

Antibiotics	VMC (IP and OP) 2018	All Outpatients 11/2018-11/2019	FM Outpatients 11/2018-11/2019
Cefazolin	86%	87%	89%
Nitrofurantoin	96%	96% →	95%
TMP-SMX	75%	75% →	80%
FQs	78%	79% →	85%

Figure 3: Comparison of antibiogram in different population settings at Vidant Medical Center – VMC (Inpatients and Outpatients), All Outpatients and Family Medicine Outpatients only.

RESULTS

- Total of 1107 *E coli* urinary isolates for all outpatients and 104 for FM clinics only.
- Pre-survey data are noted in ***Light blue***. Post-survey changes are described in ***Dark blue*** noting that 100% of respondents now felt a need to have access to focused antibiogram data.
- Post intervention results indicated an increase in the providers'use of Nitrofurantoin. This was most likely due to education on excellent susceptibility of *E. coli* to Nitrofurantoin
- ***Figure 3*** highlights key differences in antibiogram data, especially enhanced susceptibilities for common antibiotics in FM-specific clinics when compared to composite institutional data.

CONCLUSION

- Composite hospital antibiograms may not be optimal for determining empiric UTI treatment in the community.
- Antibiotic selections thought to be inadequate in an inpatient setting in an institution may be effective in outpatient settings.
- Thus, antibiograms developed specifically for outpatient clinics, especially in academic centers, have potential to greatly enhance appropriate care.

REFERENCE

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