Poster 1024

Provider Attitudes and Behaviors for Antibiotic Prescribing in the Emergency Department (ED)

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Background

- The Emergency Department (ED) provides a unique opportunity to observe prescribing behaviors that may be associated with increasing antibiotic-resistant bacteria.
- ED is a critical site to address reduction of inappropriate antimicrobial use.
- Targeted messaging and decision support tools may promote adherence to clinical practice guidelines.
- Paucity of literature on ED provider knowledge, attitudes and behaviors (KAB) regarding antimicrobial prescribing that could inform interventions.

Objectives

- To assess ED provider KAB for antimicrobial prescribing.

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Methods

- Survey-based study of ED clinicians (attending physicians, emergency medicine residents, and midlevel providers) from eight academic sites
- Survey instrument modified from prior surveys on antimicrobial stewardship[1,2]
- Administered via RedCap, a secure web application
- SAS 9.3 was used for all analyses

Results

CLINICIAN CHARACTERISTICS

Characteristic (n=142)	Frequency (%)
Age	<30: 25% 31-40: 55% 41-50: 12% >50: 8%
Gender	Female: 50% Male: 50%
Title	Attending: 59% Resident: 36%
Type of Location	Urban Tertiary Academic Centers: 64% →19% (residents) rotate in a Community Tertiary Hospital Urban County Hospital: 18% →49% (residents) rotate with an Urban Tertiary Academic Hospital Military Treatment Facility:16% Urban Academic Pediatric Center:15%
Years in Practice	Attendings: Mean=11.5 y (1 y, 37 y) Residents: Mean=2.5 y (0.4 y, 5 y)

SURVEY RESPONSES

Characteristic	Attendings (n=88)	Residents (n=54)	p
Confidence of using antibiotics optimally for patients being *discharged*	Very Confident : 30% Somewhat Confident: 61% Somewhat Unconfident: 9% Very Unconfident: 0%	Very Confident: 4% Somewhat Confident: 81% Somewhat Unconfident:13% Very Unconfident: 2%	**0.0007**
Confidence of using antibiotics optimally for patients being *admitted*	Very Confident : 33% Somewhat Confident: 59% Somewhat Unconfident: 7% Very Unconfident: 1%	Very Confident : 26% Somewhat Confident: 67% Somewhat Unconfident: 7% Very Unconfident: 0%	0.48
If it was provided to you via smart phone or iPad, how useful would you find an on-line decision support tool for antibiotic selection in your ED practice?	Extremely Useful: 44% Somewhat Useful: 44% Not Very Useful: 5% Not Useful At All: 2% Don't Know: 5%	Extremely Useful: 72% Somewhat Useful: 26% Not Very Useful: 0% Not Useful At All: 0% Don't Know: 2%	**0.0009**
If antibiotic recommendations were embedded in the EMR, how useful would you find an on-line decision support tool for antibiotic selection in your ED practice?	Extremely Useful: 51% Somewhat Useful: 40% Not Very Useful: 5% Not Useful At All: 1% Don't Know: 3%	Extremely Useful: 60% Somewhat Useful: 31% Not Very Useful: 3% Not Useful At All: 2% Don't Know: 4%	0.42
If it was provided to you via smart phone/iPad, would you use an online decision support tool for antibiotic selection in your ED practice?	Definitely: 41% Probably: 42% Probably Not: 16% Definitely Not: 1%	Definitely: 70% Probably: 24% Probably Not: 0% Definitely Not: 1%	**0.0008**
If antibiotic recommendations were embedded in the EMR, would you use an on-line decision support tool for antibiotic selection in your ED practice?	Definitely: 49% Probably: 46% Probably Not: 4% Definitely Not: 1%	Definitely: 52% Probably: 41% Probably Not: 7% Definitely Not: 0%	0.95
Agreement with statement "Antibiotics are overused in the ED"	Strongly Agree: 31% Agree: 56% Neutral: 9% Disagree: 4% Strongly Disagree: 0%	Strongly Agree: 13% Agree: 44% Neutral: 32% Disagree: 11% Strongly Disagree: 0%	**<.0001**
I get useful feedback on my antibiotic selections	Strongly Agree: 1% Agree: 6% Neutral: 12% Disagree: 52% Strongly Disagree: 29%	Strongly Agree: 4% Agree: 24% Neutral: 20% Disagree: 32% Strongly Disagree: 20%	**0.003**
Antibiotic resistance does not present a significant problem in the ED at my institution	Strongly Agree: 1% Agree: 2% Neutral: 12% Disagree: 50% Strongly Disagree: 35%	Strongly Agree: 0% Agree: 7% Neutral: 7% Disagree: 63% Strongly Disagree: 22%	0.21
Antibiotics are overused in non-ED settings at my institution	Strongly Agree: 34% Agree: 40% Neutral: 21% Disagree: 5% Strongly Disagree: 0%	Strongly Agree: 19% Agree: 41% Neutral: 30% Disagree: 7% Strongly Disagree: 3%	**0.02**

Preliminary Conclusions

- ED attendings are more aware of the problem of antibiotic overuse than residents.
- Despite most ED clinicians reporting poor feedback on antibiotic selection, most felt confident in their prescribing patterns
- Most clinicians in the ED support use of electronic decision-making tools for antibiotic selection vs. embedding antibiotic recommendations in the EMR.
- Differences in how trainees access information may necessitate multiple strategies to reduce inappropriate prescribing in academic EDs.
- Further research should focus on ED-tailored interventions to address antibiotic overuse.

Limitations

- Survey based (participant, self-reporting and social desirability biases)
- Small sample size
- Did not include community EDs
- Analysis of qualitative outcomes with quantitative approach

References

1. Srinivasan A, Song X, Richards A, Sinkowitz-Cochran R, Cardo D, Rand C. A survey of knowledge, attitudes, and beliefs of house staff physicians from various specialties concerning antimicrobial use and resistance. Arch Intern Med. 2004 Jul 12;164(13):1451-6.
2. Abbo L, Sinkowitz-Cochran R, Smith L, Ariza-Heredia E, Gómez-Marín O, Srinivasan A, Hooton TM. Faculty and resident physicians' attitudes, perceptions, and knowledge about antimicrobial use and resistance.Infect Control Hosp Epidemiol. 2011;32(7):714-8.