“Abx 101”: a successful first foray into empiric antibiotics

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BACKGROUND & OBJECTIVES

Understanding core principles of empiric antibiotic therapy is essential for antimicrobial stewardship. Pre-pandemic, the “Abx 101” workshop taught students an initial approach to empiric antibiotics.

Objectives: (1) Construct a systematic approach to empiric antibiotics, (2) List normal flora/likely bacterial pathogens for anatomic location of disease, (3) Categorize antibiotics by their coverage, (4) Apply microbiology and antibiotic knowledge to cases.

METHODS

- Originally delivered as a 2 hour workshop with 50 students (n=2 in November 2019, March 2020)
- Adapted to 1 hour session (virtual, in-person, and hybrid) with 25 students and 1 faculty facilitator without breakout groups. Content was unchanged other than fewer cases

Introduction
- Presentation of general approach to empiric antibiotics
- Faculty-facilitated interactive microbiology review of typical anatomic microbiota (or likely pathogens)

Antibiotic coverage
- Workshop version: students divided into small groups and were assigned a category of antibiotic coverage (e.g. “MRSA drugs”). Jigsaw technique was used for small group teach back to the class
- 1 hour didactic version: individual students were called on to allocate drugs from the list into a given category of antibiotic coverage

Bug-Drug Pairings
- Faculty facilitated a discussion in which students matched initial antibacterial therapy for each body area’s typical pathogens (Figure 4).

Case discussions
- Workshop version: Small groups were assigned a case in which they identified likely diagnosis, most likely pathogens, and appropriate empiric antibiotics to target those organisms, then presented back to the class (Figures 5 & 6)
- 1 hour didactic version: individual students volunteered to lead discussion of cases with the class

Worksheet completion

Figure 1

Figure 2

Figure 3

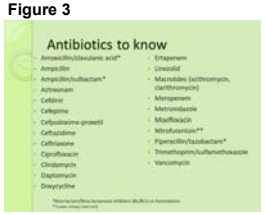


Figure 4

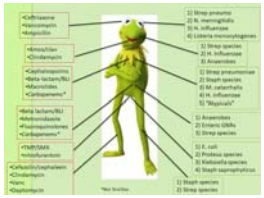


Figure 5

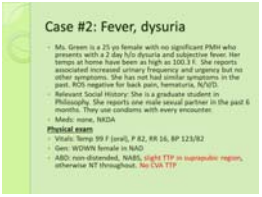
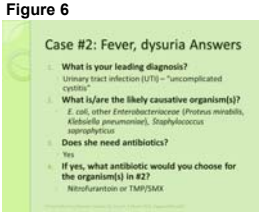
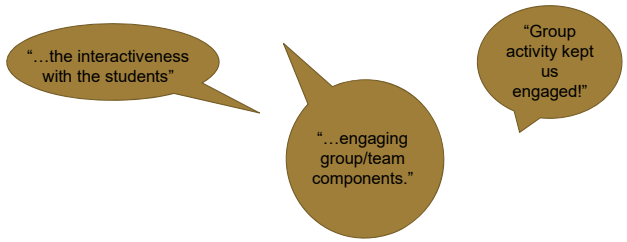


Figure 6



RESULTS

- 30 of 164 (18%) students completed the survey (n=17 from in-person, n=13 virtual).
- 100% of respondents deemed the format appropriate for the content.
- 100% of respondents rated the session as extremely/quite relevant.
- “Interaction” was the most common theme in qualitative analysis
- Representative comments for most effective elements of the activity:



DISCUSSION

- “Abx 101” was acceptable relevant, and formatted well for learning about empiric antibiotics
- The curriculum’s interactive nature adapts well for in-person and remote learning.
- Although the response rate to the survey was low, the Centre for Higher Education Quality suggests that a response rate of >10% is still valid

NEXT STEPS

- Develop pre- and post-test to measure student learning from the session