

Intern and Resident Knowledge and Perspectives on Appropriate Use of Antibiotics for Urinary Tract Infections and Skin and Soft Tissue Infections in the Hospital Setting

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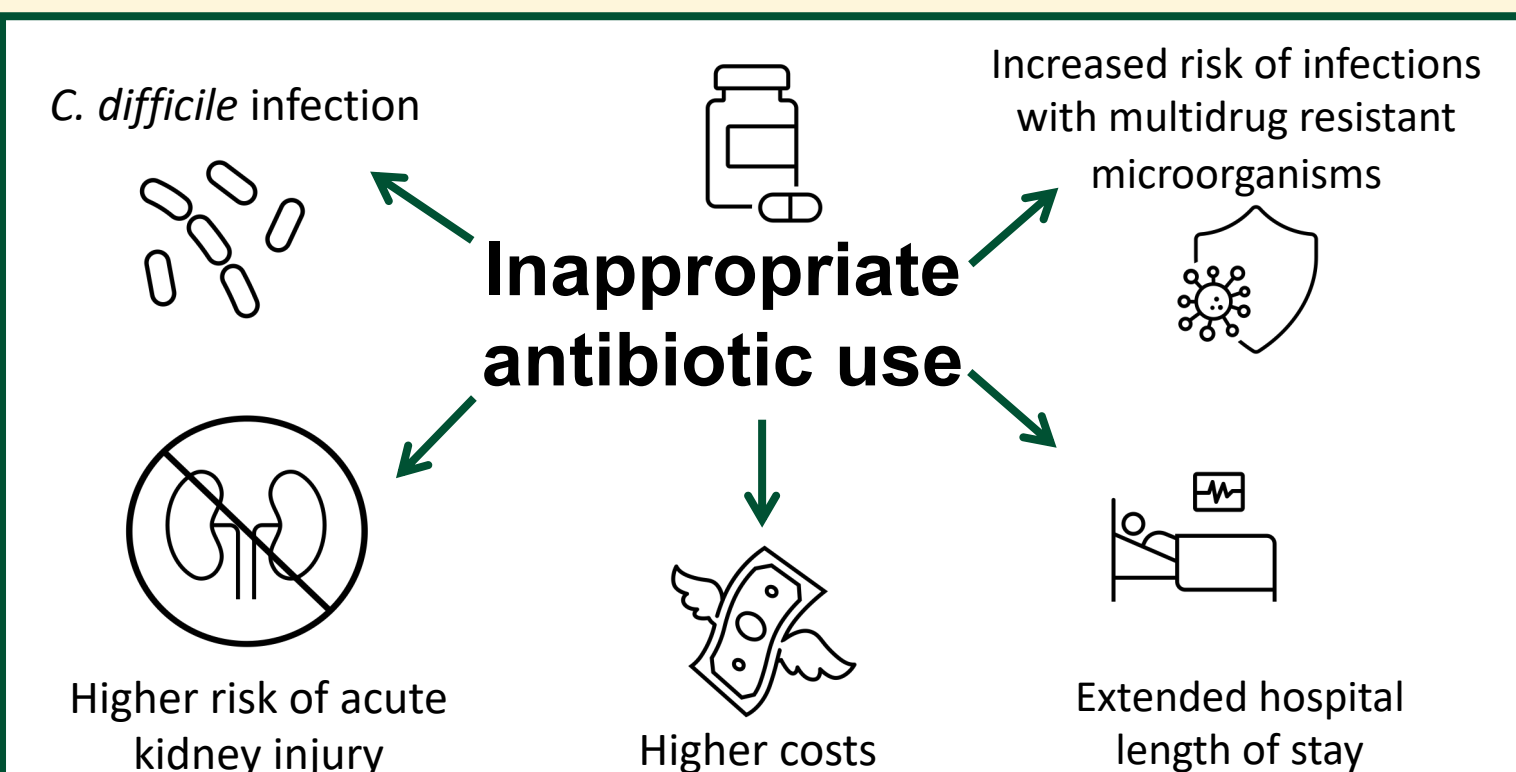
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Background

- Antibiotic resistance is recognized as a significant threat to public health across the globe.
- The rate of inappropriate use of antibiotics in hospitals has been reported as high as 50%.
- Trainees are frontline clinicians responsible for routine diagnosis and treatment of infectious diseases. They are educators for students and non-ID faculty.
- Treatment of urinary tract infections (UTIs) and skin/soft tissue infections (SSTIs) is a common clinical scenario encountered by these trainees.



Methods

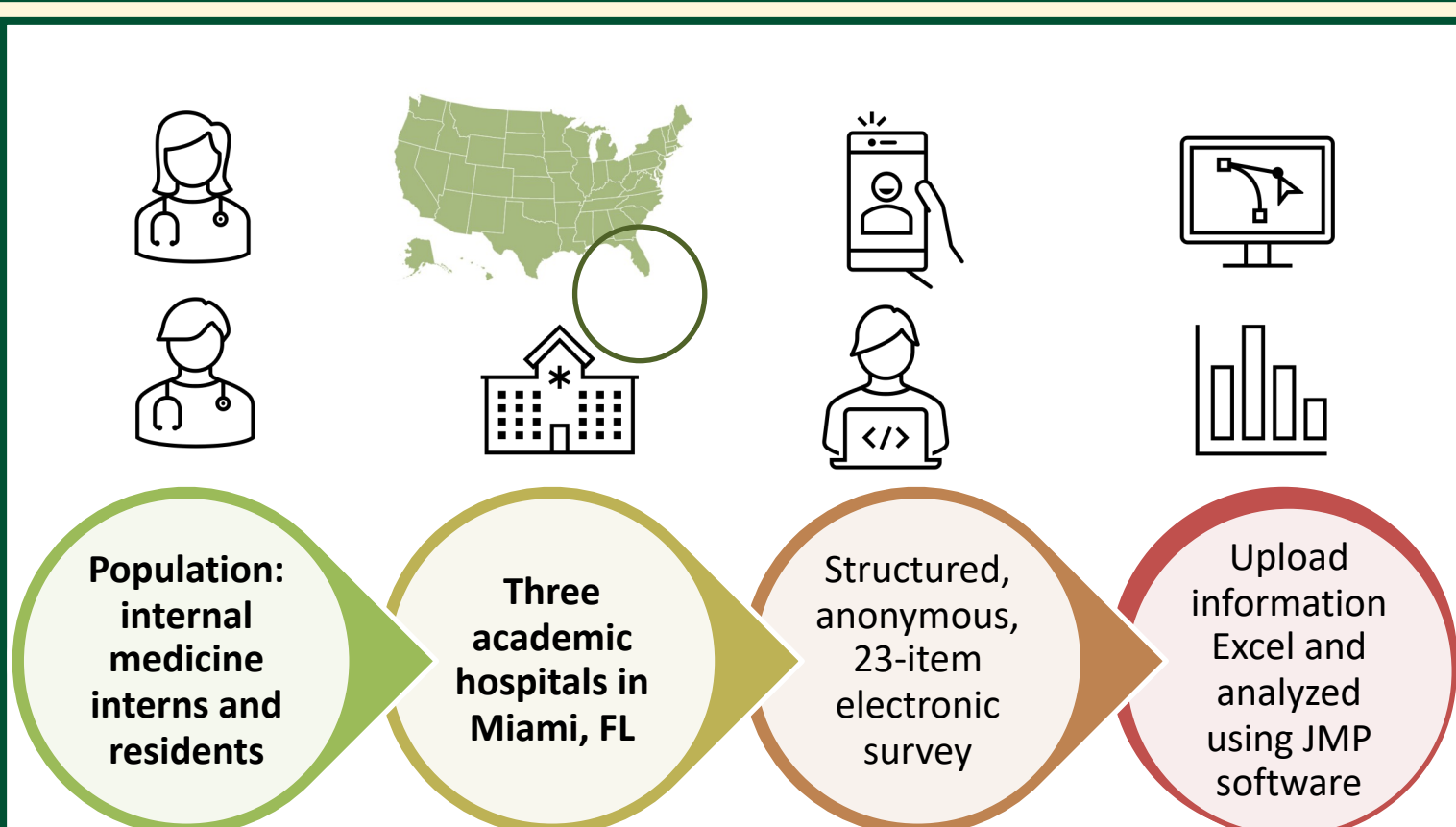


Figure 1. Areas evaluated and questions included in the electronic survey completed by participants.

<p>Empiric treatment for cystitis-outpatient</p> <p>Levofloxacin 500 mg PO q24 hours Bactrim 1DS PO q12 hours Nitrofurantoin 100 mg PO q12 hours Augmentin 875 mg q12 hours</p> <p>Duration of therapy for uncomplicated UTI</p> <p>Female 3 days, Male 7 days Female 5 days, Male 10 days Male and Female 7 days Male and Female 10 days</p> <p>Empiric Treatment for pyelonephritis-NO risk factors for MDRO</p> <p>Ceftriaxone 1 g IV q24 hours Cefepime 2g IV q8 hours Bactrim 1DS PO q12 hours Nitrofurantoin 100 mg PO q12 hours</p> <p>Empiric Treatment for pyelonephritis-WITH risk factors for MDRO</p> <p>Ceftriaxone 1 g IV q24 hours Levofloxacin 750 mg PO q24 hours Zosyn 3.375 IV q 8 hours Meropenem 1 g IV q 8 hours</p> <p>Empiric Treatment for purulent cellulitis - NO systemic signs of infection</p> <p>Cephalexin 500 mg PO q 6 hours Vancomycin pharmacy to dose Amoxicillin 500 mg PO q 8 hours Doxycycline 100 mg PO q12 hours</p> <p>Empiric Treatment for purulent cellulitis - WITH systemic signs of infection</p> <p>Ceftriaxone 1 g IV q 12 hours Vancomycin pharmacy to dose Linezolid 600 mg PO q 12 hours Ampicillin IV 2 g IV q 4 hours</p>	<p>Empiric Treatment for NON-purulent cellulitis - NO systemic signs of infection</p> <p>Cephalexin 500 mg PO q 6 hours Vancomycin pharmacy to dose Levofloxacin 500 mg PO q 24 hours Doxycycline 100 mg PO q12 hours</p> <p>Empiric Treatment for NON-purulent cellulitis - WITH systemic signs of infection</p> <p>Vancomycin pharmacy to dose Ceftriaxone 1 g q24 hours Linezolid 600 mg PO q 12 hours Levofloxacin 500 mg PO q24 hours</p> <p>Antibiotics/antivirals that need to be renally-adjusted</p> <p>A. Vancomycin B. Piperacillin/Tazobactam C. Ceftriaxone D. Ampicillin / Sulbactam E. Cefepime F. Metronidazole G. Doxycycline H. Levofloxacin I. Fluconazole J. Micafungin K. Acyclovir L. Oxacillin M. Clindamycin N. Azithromycin</p> <p>How confident do you feel prescribing antibiotics for UTI or SSTIs?</p> <p>Not confident Somewhat confident Confident Very confident</p>
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Results

Table 1. Interns and residents' knowledge and perspective on rational use of antibiotics for UTIs/SSTIs—Percentage of correct knowledge score and perception on antibiotic prescription.

Area evaluated	Interns (n=36)	Residents (n=38)
Correct knowledge score		
UTIs treatment and duration of therapy	52.8%	76.3%
SSTIs treatment and duration of therapy	38.9%	65.8%
Renal dosing of antibiotics and antivirals	47.2%	73.7%
Perception on antibiotics prescription		
Not confident	58.3%	18.4%
Somewhat confident	33.3%	63.2%
Confident	8.3%	18.4%
Very confident	0.0%	0.0%

*UTIs: urinary tract infections. SSTIs: skin and soft tissue infections

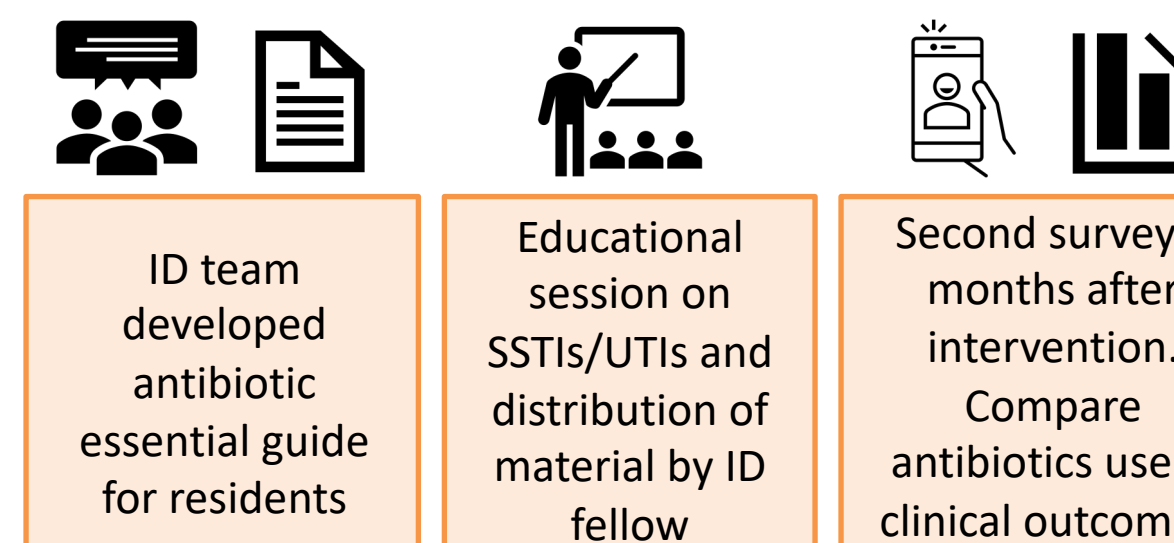
Conclusion

Preliminary and categorical internal medicine interns had lower correct knowledge scores and confidence when prescribing antibiotics for UTIs and SSTIs compared to residents.

There is still room for improvement in advanced years of training, including improvement in confidence assessment. Further studies are necessary to assess the impact of educational strategies to promote the appropriate use of antibiotics.

Future perspectives

Based on the results of this cross-sectional study, we will conduct a quality improvement project to evaluate the impact of residents-targeted educational interventions on the appropriate use of antibiotics for UTIs and SSTIs in the hospital setting (VA IRB exemption: 1647397-1).



References

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