

Advanced Practice Clinician Antibiotic Prescribing Practices for the treatment of Uncomplicated UTIs at University of Utah Emergency Department Urgent Care

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I. Introduction

- In the United States, complaints of urinary tract infections (UTI) symptoms account for ~ 7 million office visits and 1 million ED visits annually, making uncomplicated UTIs one of the leading causes for antibiotic prescribing in primary healthcare.¹
- Infectious Disease Society of America (IDSA) guidelines recommend Nitrofurantoin 100 mg BID X 5 days as first line treatment.
- **Community problem:** Perceived inappropriate prescribing practices for uncomplicated UTIs
- **Research question:** In patients presenting to the University of Utah Emergency Medicine Department Urgent Care diagnosed with an uncomplicated UTI, what percentage of patients are appropriately prescribed first line antibiotics (Nitrofurantoin) according to IDSA guidelines?

II. Methods

- Retrospective Chart Review
- Quality Improvement Project
- September 1, 2021 – February 28, 2022
- Patients diagnosed with uncomplicated UTIs treated at U of U Emergency Department Urgent Care
- Uncomplicated UTI: infection of the lower urinary tract in healthy, nonpregnant, adult premenopausal women with the presence of urinary symptoms (pain with urination, urgency, etc.) and bacteriuria.²⁻⁴
 - Absence of fever, flank pain, or pyelonephritis
 - *Escherichia coli* is the most common pathogen
- **Inclusion criteria:** Cis-gendered women of child bearing age (18-65) with primary complaint of dysuria, urinary hesitancy, frequency, urgency, or suprapubic pain.
- **Exclusion criteria:** Allergy to nitrofurantoin, pregnant, history of UTI with resistant pathogen, UTI diagnosis in past month, ABX therapy in past 2 weeks, current STI, immunocompromised, or any symptoms indicative of pyelonephritis.
- **Main outcome measure:** Antibiotic prescribed consistent with IDSA guidelines
- **Data analysis:** Descriptive statistics – SPSS v. 27

III. Results

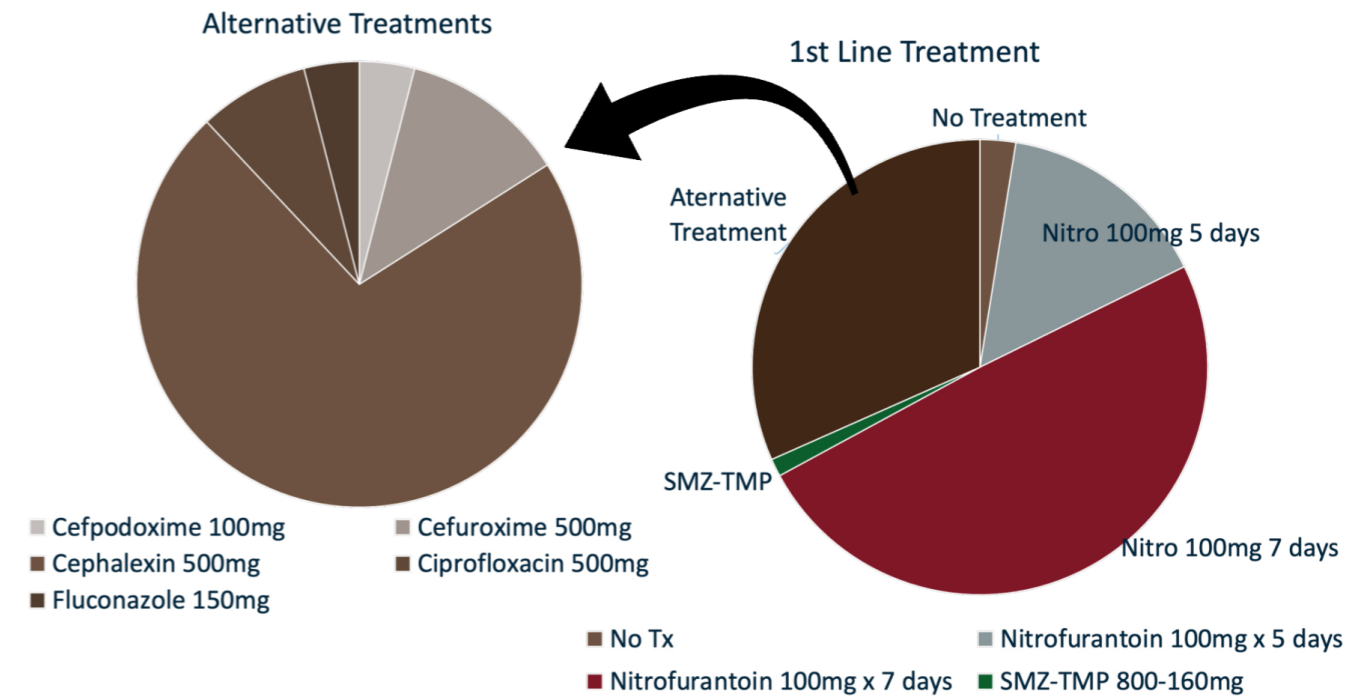
- 150 patients initially identified, 79 were retained for the final analysis (47.3% were excluded – **Table 1**)
- Mean age of 30.9 ± 13.3 years, height 163.2 ± 20.2 cm, weight 69.3 ± 17.4 kg, and BMI of 25.3 ± 6.06 kg/m²
- 84.4% identified as white, 7.6% identified as Asian
- 91.1% identified as non-Hispanic and 2.5% identified as Hispanic or Latinx
- 87.3% of patients had private insurance 10.1% had Medicaid
- 79.7% Resided in Salt Lake County
- **Main Outcome:** 16.9% received treatment consistent with IDSA guidelines.
- **Figure 1** provides treatment breakdown
 - 64.6% that received nitrofurantoin
 - 23.5% 5 days
 - 76.5% 7 days
- 98.7% received a POC UA
- 70.9% received a Culture
 - *E. coli* (36.7%)
 - Mixed flora (11.4%)
 - No growth (7.6%)

Table 1 – Reasons for Exclusion from Analysis

Reason for Exclusion	Frequency (n)	% of Excluded
No UTI diagnosis	11	15.5
Symptoms associated with Pyelonephritis or complicated UTIs	20	28.2
Antibiotic use within 1 month	11	15.5
UTI diagnosis and treatment within 1 month	11	15.5
Immunocompromised status	1	1.4
Pregnancy	2	2.8
Current STI	2	2.8
Age (<18 or >65)	7	9.9
Other	6	8.5



Figure 1 – First Line and Alternative Treatments Prescribed



IV. Conclusions

- Data supports community partner's perception of non-adherence to IDSA guidelines
 - Providers may not be aware of IDSA Guidelines for uncomplicated UTI treatment
- Nitrofurantoin was more frequently prescribed, but duration was incorrect
 - Potential systems failure – note stated correct drug and dose but ordered prescription was incorrect. Default settings in EMR are preset to 7 days for Nitrofurantoin
- Majority of patients received urine cultures – this is not recommended by IDSA
- Limitations: Manual data acquisition and provider notes/primary diagnosis codes lack details or medical decision making for screening
- Strengths: Six months of data and sample size

V. References

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