

Improving the Diagnosis and Treatment of Dysuria in Adult Women

Amber P. Turner, DNP, APRN, FNP-BC & Andrea J. Efre, DNP, APRN, ANP, FNP-C

PROBLEM

- Dysuria, defined as the sensation of pain, stinging, or burning with urination, symptoms can mirror both urinary tract infection (UTI) and sexually transmitted infections (STI) presenting a challenge for detection (Chadwick et al., 2018)
- Dipstick urinalysis are unreliable in the diagnosis of UTI and can be inaccurate due to improper collection, vaginal secretion contamination, and use of OTC medications (AZO) (Maina, J., et al, 2022)
- Empirical treatment of urinary symptoms with antibiotic contributes to antibiotic resistance
- The CDC recommends women with complaints of dysuria be screened for STI (CDC, 2021). Undiagnosed STI can lead to PID, ectopic pregnancy, infertility and chronic pelvic pain
- In a landmark study on dysuria, 64% of women with an STI were incorrectly diagnosed with a UTI (Tomas, 2015)
- Of 19 women who presented to Urgent Care (UC) with dysuria, within a 30-day period, only 31% had a urine culture ordered to confirm infection and less than 16% were screened for gonorrhea and chlamydia

PROJECT PURPOSE

- Project aim was to standardize the care for the management of dysuria by implementation of a dysuria protocol
- Promotion of antibiotic stewardship
- Reduction in long term complications from untreated STI

MODEL/NURSING THEORY

- The Institution for Healthcare Improvement (IHI) Model for Improvement with the PDSA Cycle guided the Quality Improvement (QI) project
- The Pender Health Promotion (PHP) model provided a theoretical framework

METHODS

Subjects (Participants)

- Included: women 18 years and older with complaints of urinary urgency, frequency, or burning/pain with urination.
- Excluded: <18 years, pregnant, or complaints of flank pain, lower abdominal pain, vaginal discharge, or vaginal lesions

Setting

- Suburban UC clinic located in West Florida. The clinic services approximately 40 patients a day, approximately 14,600 visits per year

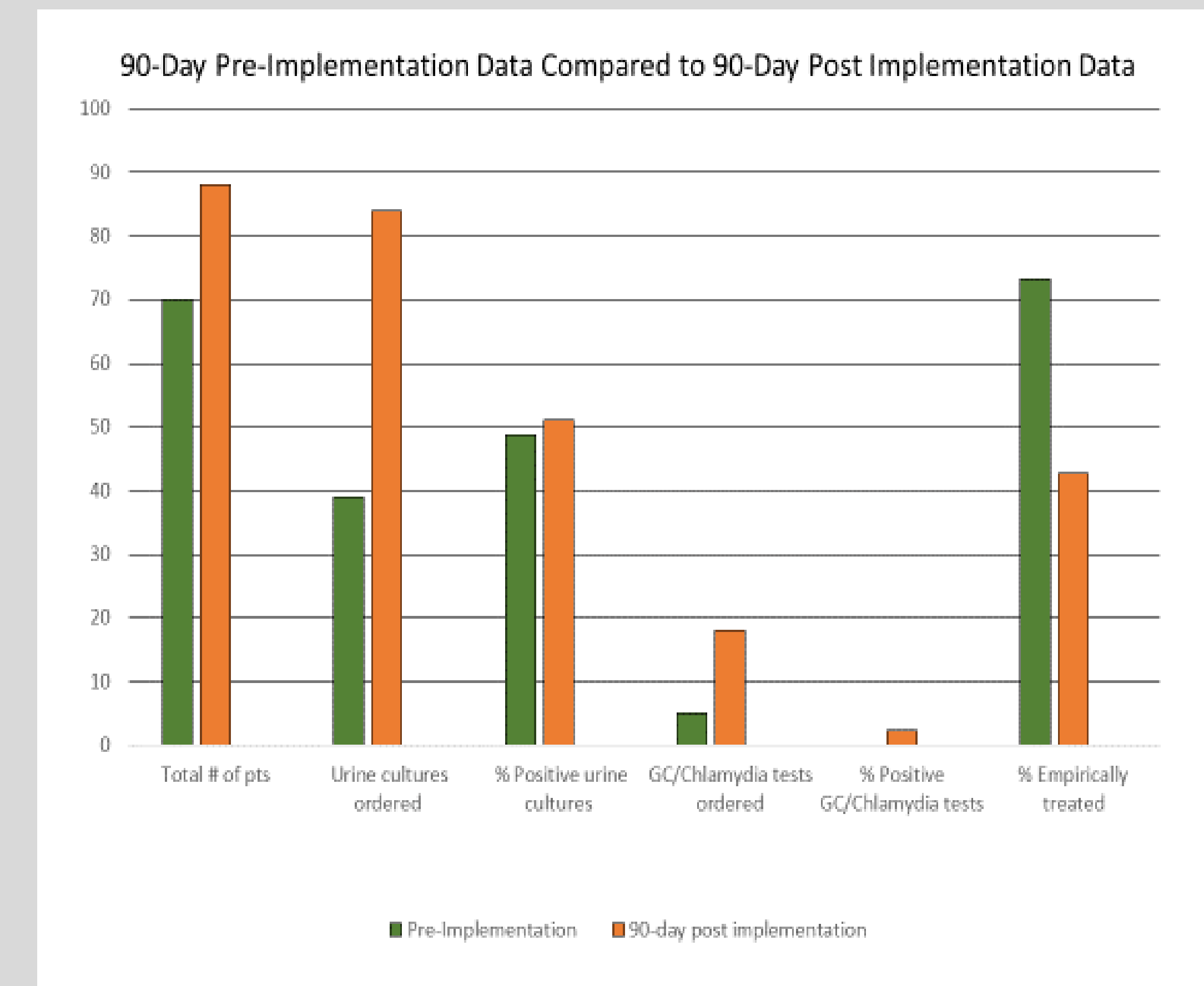
Instruments/Tools

- A dysuria protocol provided a workflow process to direct the health care team on how to proceed when evaluating dysuria

DATA ANALYSIS

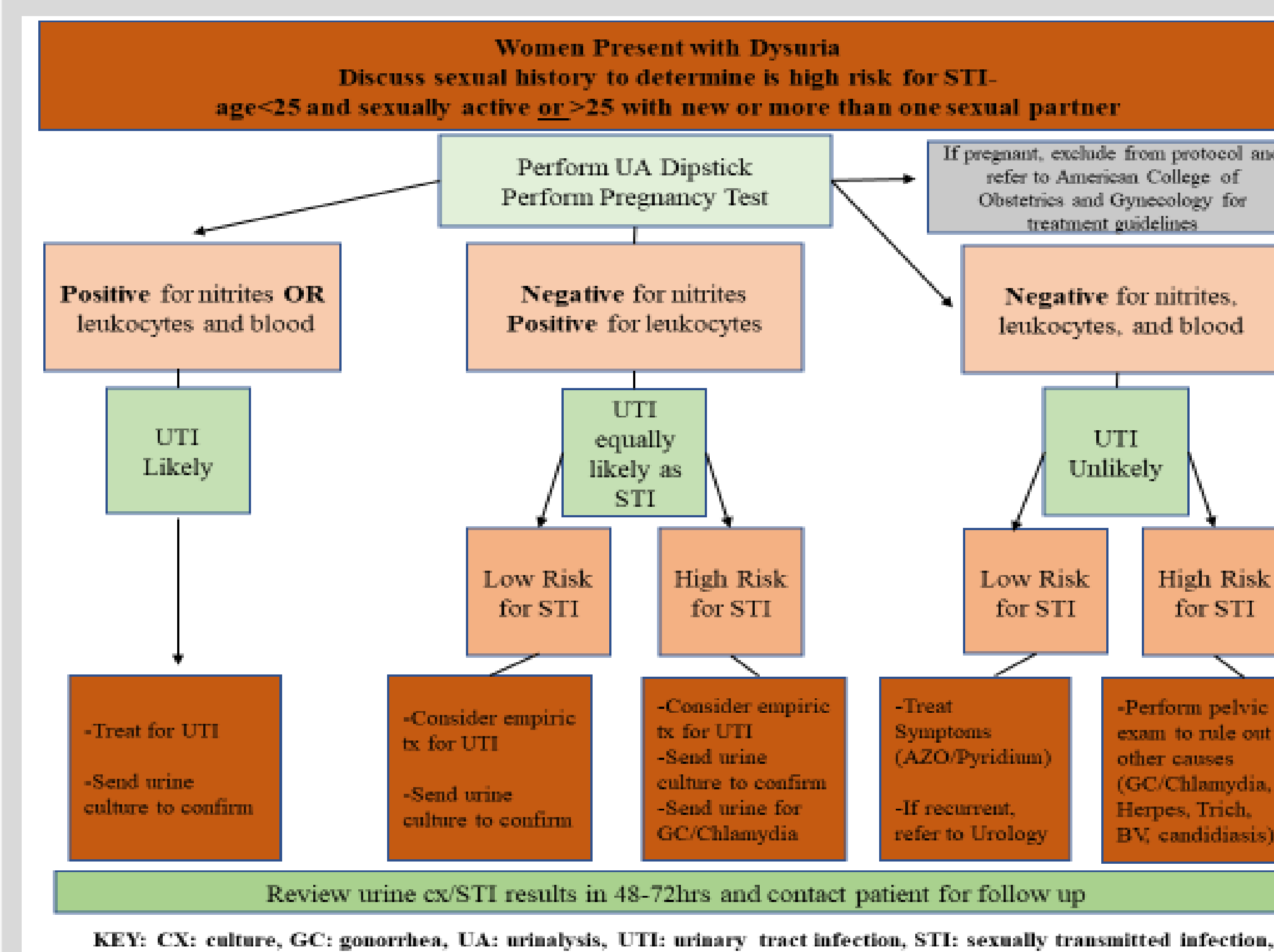
- A comparative analysis, by pre and post intervention 90-day chart review from the electronic medical record was performed
- Chi-squared test used to evaluate for statistical significance

RESULTS



- Urine culture positivity rate increased from 48.7% to 51.1%
- STI screening rate increased from 7.7% to 20.5%
- STI positivity rate increased from 0.0% to 11.1%
- Empiric treatment with antibiotics when urine dip test was not suggestive of UTI decreased by 30%
- Statistical significance was observed in the number of urine cultures ordered ($P < 0.0001$) as well as the number of patient screened for STI ($P < 0.0177$) post implementation of the protocol

DYSURIA PROTOCOL



DISCUSSION

- Improved UTI detection prevented unnecessary treatment with antibiotics, promoted antibiotic stewardship, and reduced antibiotic resistance
- Improved identification of STI reduced potential long-term complications arising from undiagnosed STIs such as PID, ectopic pregnancy, infertility, and chronic pelvic pain
- Management of dysuria was standardized within the Urgent Care clinic

LIMITATIONS

- Staffing shortages, both provider and ancillary, created task overload
- Contract/locums' staff were not familiar with the ongoing process improvement
- Inconsistent provider documentation of sexual history
- Nationwide shortage of GC/Chlamydia test kits may have affected outcome

IMPLICATIONS FOR ADVANCED NURSING

PRACTICE

- Standardization of care is needed as evidenced by the increase in identification of both UTI and STI after implementation of a dysuria protocol.
- Patient education is needed regarding collection of clean catch urine as the marginal increase in urine culture positivity likely secondary to poor collection technique as 4.7% cultures contaminated with normal flora

SUSTAINABILITY

- Management of dysuria will be standardized within the UC clinic promoting the use of evidence-based best practices.
- The dysuria protocol will become the standard of practice across all clinic locations in West Florida

REFERENCES



Key Findings: Standardization of care by implementation of a dysuria protocol improved screening for both UTI and STI, increased rate detection of UTI and STI, and reduced the number of patients unnecessarily treated with antibiotics