Common pathogens and their antibiotic resistance pattern among patients with uncomplicated urinary tract infection (UTI) in outpatient settings of two district hospitals - a pilot study

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ABSTRACT

Introduction: Uncomplicated urinary tract infection (UTI) can be treated empirically. The emergence of organisms resistant to first-line empirical antibiotics for uncomplicated UTIs is a concern. This study aimed to determine the uncomplicated UTI-causing pathogens and antibiotic resistance pattern among outpatients in Hospital Seri Manjung (HSM) and Hospital Teluk Intan (HTI). **Methods:** This cross-sectional study involving outpatient department patients aged 18 years and above, with uncomplicated UTI symptoms, was conducted at HSM and HTI from July 2014 to August 2016. Patients with recurrent UTI, antibiotics use, admission within 3 months of symptoms presentation; calculus, structural abnormality or urinary catheter were excluded. Mid-stream urine specimens of consented patients were sent for urine full examination and microscopic examination (UFEME). Patients were "screened fail" if leukocyte esterase and nitrites were undetectable. Culture and sensitivity (C&S) testing was done. Data on isolates and the resistance pattern were collected. **Results:** Among 27 HSM and 58 HTI specimens cultured, 15 (55.6%) and 10 (17.2%) had significant growth respectively. *Escherichia coli (E. coli)* was most commonly isolated, followed by *Klebsiella pneumonia, Proteus mirabilis* and *Candida albicans*. The resistance rates of E. coli alone towards cefuroxime, nitrofurantoin, amoxicillin/clavulanic acid, sulphamethoxazole/trimethoprim, ciprofloxacin and ampicillin were 0%, 0%, 5.9%, 17.6%, 17.6% and 27.3% respectively. **Conclusion:** E. coli was the predominant pathogen causing uncomplicated UTI identified. The resistance rates of *E. coli* isolated towards cefuroxime, nitrofurantoin, amoxicillin/clavulanic acid, sulphamethoxazole/trimethoprim, ciprofloxacin and ampicillin were lower than the resistance reported by National Antibiotic Resistance Surveillance Report (NSAR) 2013-2017.