

**TITLE:** SUSCEPTIBILITY PROFILE OF *E. COLI* IN AMBULATORY PATIENTS WITH URINARY TRACT INFECTION (2002 - 2016) - SALVADOR - BAHIA - BRAZIL

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**ABSTRACT:**

Urinary tract infection (UTI) is one of the most common bacterial infections in ambulatory patients and one of the main reasons for the prescription of antibiotics. Approximately 150 million cases of UTI per year are estimated worldwide and it's considered the second most common human infection. Inappropriate antimicrobial therapy for the treatment of bacterial infections results in the dissemination of resistance genes among the microorganisms, besides inducing a selective pressure on the microorganisms, facilitating the permanence of the mutant strains for the resistance in relation to the sensitive strains. The progressive increase in resistance rates among uropathogens has limited the use of some classes of antibiotics in the empirical treatment of community UTI. The exacerbated use of beta-lactams and quinolones as first-line drugs in the empirical antimicrobial therapy of UTIs is of great concern, since increased resistance to these drugs has been perceived in both hospitalized and ambulatory patients. Thus, the objective of this study was to compare the sensitivity profile of *Escherichia coli* isolates from urine culture performed in two distinct periods (2002 and 2016), at the Hospital São Rafael Salvador, Bahia, Brasil. A total of 2774 positive cultures for *E.coli* were evaluated in ambulatory patients. Evaluating the two periods, a significant increase in resistance to ciprofloxacin was observed, from a rate of 14 to 28%, contraindicating the use as first choice in the empirical treatment of UTIs. We also observed an increase in the resistance rates to cephalosporins of 3rd generation that increased 5 times in relation to the previous period studied. In contrast, resistance to sulfamethoxazole-Trimethoprim (SMZ-TMP) showed a lower resistance rate (42 to 33%), which can be explained by the decrease of use as a choice in the empirical therapy of community UTIs. The antimicrobial resistance profile is constantly changing and to better define the therapeutic option to be introduced some factors need to be evaluated, especially the local prevalence of microorganisms and resistance rates. Frequent monitoring of these data is essential to optimize empirical treatment in an early and assertive manner, minimize the indiscriminate use of antibiotics, and thus reduce bacterial resistance.

**Keywords:** resistance, *E. coli*, urine culture, treatment

**Development Agency:**