ABSTRACT

Escherichia coli (E. coli) is the most common Gram-negative rod-shaped bacterium causing urinary tract infection (UTI). UTI is one of the most common pathological conditions in communities and hospitals. It is estimated that around 150 million people worldwide suffer from UTI each year and have spent high costs. Early treatment with appropriate and effective antibiotics is very important for the long-term prevention of UTI complications. According to guidelines from the Indonesian Urologist Association, antibiotics recommended as empirical therapy for UTI are *Cotrimoxazole (Trimethoprim-Sulphamethoxazole)* and *Ciprofloxacin*. Based on the previous studies, there is an increase in bacteria that are resistant to antibiotics that were routinely used. The aim of this study is to test the sensitivity and compare the effectiveness of the *Cotrimoxazole* and *Ciprofloxacin* to clinical isolates of *E. coli* from urine specimens for UTI therapy. This is a laboratory experimental analytic study with a posttest-only design. The sample used was 20 clinical isolates of E. coli bacteria from patients' urine specimens with suspected UTI at general practitioners' clinics in Surabaya in July-August 2019. Bacterial isolates were identified by MacConkey Agar, Gram staining and biochemical tests using bioMérieux API 20E System. Antibiotic susceptibility test was carried out by the Kirby-Bauer diffusion method on Mueller Hinton Agar by administering antibiotic discs. The inhibition zone diameter is interpreted with the CLSI 2015 standard. There were differences in the effectiveness of antibiotics with the results of *Cotrimoxazole* 40% sensitive and *Ciprofloxacin* 70% sensitive to clinical isolates of *E. coli*. *Ciprofloxacin* has a higher effectiveness to clinical isolates of *E. coli* from urine specimens compared with *Cotrimoxazole.*

Keywords : E. coli, UTI, *Cotrimoxazole, Ciprofloxacin,* Antibiotic Susceptibility Test