

ABSTRACT

Resistance to antibiotics is a global problem for health care in the world, including in Indonesia. Individuals who received antibiotic therapy experienced a change in the normal microbial flora through *selective pressure*. Evaluation of the quantity of antibiotic use in hospitals is one indicator of antimicrobial resistance control. The aim of this study was to analyze the correlation between quantity of antibiotic use and the pattern of resistance of normal intestinal *Escherichia coli* flora in patients in intensive care unit and Tropic Infection ward at Dr. Soetomo hospital Surabaya. This study was conducted by cross-sectional design. The total 64 samples (32 in intensive care unit and 32 in tropical infection ward). The sampling technique uses the total population. Data were analyzed using bivariate analysis with Chi square test and Fisher's test.

There was no significant difference ($p = 0.441$) quantity of antibiotic use between intensive care unit inpatients and Tropic infection ward. There was no significant difference ($p > 0.05$) of the normal intestinal *Escherichia coli* flora resistance pattern between the tropic infection ward and intensive care unit against 12 different types of antibiotics. Ceftriaxone is the most widely used antibiotic in the infection tropic ward of 54 DDD and intensive care unit of 100 DDD. The highest percentage of intestinal *Escherichia coli* flora resistant in the intensive care unit was ceftriaxone as much as 18 (56.3%) and in trophic infection ward were ciprofloxacin and levofloxacin as much as 20 (62.5%). Resistance rates in both wards are significantly different from the intestinal flora of patients in Puskesmas ($p < 0,001$), where the use of antibiotics in Puskesmas also lower (1,6 DDD). Conclusions: The quantity of antibiotic use in ICU and Trophic Infection ward did not differ significantly, which was accompanied by a pattern of antimicrobial resistance that did not differ between the two wards.

Keywords: Antibiotic, Antimicrobial resistance, hospitalized patient