

### Abstrak

## Faktor Risiko Infeksi saluran kemih yang disebabkan oleh Bakteri *Escherichia coli* Penghasil *ESBL* pada Pasien Rawat Inap RSUD Dr.Soetomo Surabaya

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**Obyektif :** Insiden infeksi saluran kemih (UTI) yang disebabkan oleh *extended spectrum beta lactamase (ESBL)* bakteri *Escherichia coli* telah menjadi masalah global dan semakin meningkat dalam beberapa tahun belakangan ini. Tujuan penelitian ini untuk menganalisa faktor risiko kejadian UTI pada pasien rawat inap RSUD Dr.Soetomo Surabaya.

**Metoda:** Spesimen dikirim ke Laboratorium Mikrobiologi Klinik menggunakan wadah steril dan diproses sesuai dengan prosedur standar laboratorium. Hasil *E.coli ESBL* digunakan sebagai kasus dan *E.coli non ESBL* sebagai kontrol . Identifikasi dan uji kepekaan antibiotik dilakukan menggunakan *BD PhoenixTM Automated Microbiology System*.

**Hasil:** terkumpul 94 isolat bakteri terdiri dari 54 (57.4%) bakteri *E.coli ESBL* dan 40 (42.6%) bakteri *E.coli non ESBL*. Infeksi saluran kemih recurrent (OR= 4.31;  $p = 0.002$  ; 95% CI = 1.68-11.04) teridentifikasi sebagai faktor risiko yang signifikan disebabkan bakteri *E.coli* penghasil *ESBL*.

**Kesimpulan:** Infeksi saluran kemih recurrent merupakan faktor risiko dependent yang disebabkan oleh bakteri *E.coli* penghasil *ESBL*.

**Kata kunci:** *E.coli*, *ESBL*, Infeksi saluran kemih , Faktor risiko, Indonesia

## Abstract

### **Risk Factors of Urinary Tract Infections caused by Extended spectrum $\beta$ -lactamase-producing *Escherichia coli* Inpatients Dr. Soetomo Hospital Surabaya**

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**Objective:** *Extended Spectrum  $\beta$ -Lactamase (ESBL)* producing *Escherichia coli* has increased over recent years and have been a global issue on account of urinary tract infection where resistance toward cephalosporin, penicillin, and monobactam now spreading to other antimicrobial agents such as fluoroquinolon, aminoglycoside, tetracyclin, and trimethoprim-sulfamethoxazole. The aim of this study was to analyze risk factors of UTI due *ESBL-producing E.coli*. from inpatients at RSUD Dr. Soetomo Surabaya.

**Method:** Specimens were sent to our laboratory using sterile containers and processed according to the laboratory standard procedures for specimens. Identification and antimicrobial susceptibility test were done using the BD Phoenix™ Automated Microbiology System.

**Result:** As many as 94 isolates were collected, consisting of *ESBL E.coli* bacteria 54 isolates (57,4%), and 40 isolates (42.6%) of non *ESBL E.coli* bacteria. Recurrent of UTI (OR= 4.31;  $p = 0.002$  ; 95% CI = 1.68-11.04) were identified as dependent risk factors for *ESBL-producing E.coli* infections.

**Conclusion:** Recurrent of UTI were identified as dependent risk factors for *ESBL-producing E.coli* infections.

**Keywords:** *E.coli*, *ESBL*, UTI, Risk factors, Indonesia