

Diajukan tanggal :
8 November 2022



TESIS

**HUBUNGAN ANTARA INFEKSI BAKTERI PENGHASIL
EXTENDED SPECTRUM BETA LACTAMASES (ESBL) DAN NON ESBL
DENGAN LUARAN, LAMA PERAWATAN DAN LAMA PENGGUNAAN
ANTIBIOTIK PADA BAYI DAN ANAK**

Penulis:

dr. Selvi Destaria

Pembimbing:

dr. MMDEAH Hapsari, Sp.A(K)

dr. Nahwa Arkhaesi, Msi.Med, Sp.A

**PROGRAM PENDIDIKAN DOKTER SPESIALIS 1
FAKULTAS KEDOKTERIAN UNIVERSITAS DIPONEGORO**

SEMARANG

2022

LEMBAR PENGESAHAN

TESIS

HUBUNGAN ANTARA INFEKSI BAKTERI PENGHASIL *EXTENDED SPECTRUM BETA LACTAMASES* (ESBL) DAN NON ESBL DENGAN LUARAN, LAMA PERAWATAN DAN LAMA PENGGUNAAN ANTIBIOTIK PADA BAYI DAN ANAK

Disusun oleh:
dr. Selvi Destaria

Menyetujui:

Pembimbing I

Pembimbing II

dr. MMDEAH Hapsari, Sp.A(K)
NIP.1961.0422.1987.102001

dr. Nahwa Arkhaesi, Msi.Med, Sp.A
NIP. 1969.1025.2008.122001

Penguji I

Penguji II

Dr. dr. Moedrik Tamam, Sp.A(K)
NIP. 1950.0719.1979.101001

dr. Tun Paksi S, Msi.Med,Sp.A(K)
NIP. 1973.1024.2008.121001

Mengetahui :

Kepala Bagian
Ilmu Kesehatan Anak FK Undip

Kepala Program Studi
Ilmu Kesehatan Anak FK Undip

dr. Yetty Movieta Nancy, Sp.A(K)
NIP. 1974.0401.2008.122001

Dr. dr. Anindita Soetadji, Sp.A(K)
NIP.1966.0930.2001.122001

ABSTRAK

HUBUNGAN ANTARA INFEKSI BAKTERI PENGHASIL *EXTENDED SPECTRUM BETA LACTAMASES* (ESBL) DAN NON ESBL DENGAN LUARAN, LAMA PERAWATAN DAN LAMA PENGGUNAAN ANTIBIOTIK PADA BAYI DAN ANAK

Selvi Destaria, Nahwa Arkhaesi, MMDEAH Hapsari
Departemen Ilmu Kesehatan Anak Fakultas Kedokteran
Universitas Diponegoro / RS Dr. Kariadi Semarang

Pendahuluan: Infeksi yang diakibatkan oleh bakteri penghasil *Extended Spectrum Beta-Lactamase* (ESBL) meningkat dalam beberapa dekade terakhir ini dan merupakan ancaman dunia yang serius. Dampak yang besar akan terjadi jika tidak mendapatkan tatalaksana yang tepat. Oleh karena itu, penulis melakukan penelitian untuk mengetahui perbedaan luaran, lama perawatan, dan lama penggunaan antibiotik pada bayi dan anak dengan infeksi bakteri penghasil ESBL.

Tujuan: Menganalisis hubungan antara infeksi bakteri ESBL dan non ESBL dengan luaran, lama perawatan dan lama penggunaan antibiotik pada bayi dan anak

Metode: studi observasional analitik dengan rancangan kohort retrospektif anak usia 0-18 tahun dengan infeksi ESBL di Rumah Sakit dr. Kariadi Semarang. Data mengenai variabel diambil secara retrospektif dengan *consecutive sampling*.

Hasil: Selama periode penelitian ini didapatkan hasil 99 pasien yang di rawat di ruang PICU, NRT, NICU RSUP DR. Kariadi Semarang dengan hasil kultur infeksi bakteri *E.coli* dan *Klebsiella pneumonia*. Infeksi ESBL ditemukan sebanyak 57 pasien dan Non ESBL sebanyak 42 pasien. Pada penelitian ini dari hasil uji chi square didapatkan nilai $p = 0,045$ dan RR (95%CI) = 1,47 (0,98 – 2,20). Terdapat hubungan antara infeksi bakteri penghasil ESBL dan non ESBL dengan luaran pada bayi dan anak. Pasien dengan infeksi bakteri ESBL memiliki kemungkinan hidup 1,47 kali lebih besar dibandingkan non ESBL. Hubungan infeksi ESBL terhadap lama perawatan didapatkan nilai $p = 0,571$. Tidak terdapat hubungan antara infeksi bakteri penghasil ESBL dan non ESBL dengan lama perawatan pada bayi dan anak. Hubungan infeksi ESBL terhadap lama penggunaan antibiotik didapatkan nilai $p = 0,472$, Tidak terdapat hubungan antara infeksi bakteri penghasil ESBL dan non ESBL dengan lama penggunaan anti biotik pada bayi dan anak.

Kesimpulan: Terdapat hubungan antara infeksi bakteri penghasil ESBL dan non ESBL dengan luaran pada bayi dan anak.

Kata kunci: *Enterobacteriaceae*, ESBL, luaran, lama perawatan, lama penggunaan antibiotik

ABSTRACT

CORRELATION BETWEEN INFECTION OF EXTENDED SPECTRUM BETA LACTAMASES (ESBL) AND NON ESBL WITH OUTCOME, LENGTH OF STAY AND ANTIBIOTIC USAGE IN INFANTS AND CHILDREN

Selvi Destaria, Nahwa Arkhaesi, MMDEAH Hapsari
Department of Pediatrics, Faculty of Medicine
Diponegoro University / Dr. Kariadi Semarang Hospital

Introduction: Infections caused by *Extended Spectrum Beta-Lactamase* (ESBL)-producing bacteria have increased in recent decades and those are serious global threat. A big impact will occur if they do not get the right treatment. Therefore, the authors conducted a study to determine the differences in outcomes, length of stay, and duration of antibiotic usage in infants and children with ESBL-producing bacterial infections.

Objective: To analyze the correlation between bacterial infections that produce ESBL and non-ESBL with outcomes, length of stay and duration of antibiotic usage in infants and children.

Methods: analytic observational study with retrospective cohort design of children aged 0-18 years with ESBL infection at dr. Kariadi Semarang Hospital. Variable datas were taken retrospectively with consecutive sampling.

Results: During the study period, it was found that 99 patients were treated in the PICU, NRT, NICU, RSUP DR. Kariadi Semarang with culture results of *Escherichia coli* and *Klebsiella pneumoniae* bacterial infections. ESBL infections were found in 57 patients and Non ESBL as many as 42 patients. In this study, the chi square test results obtained $p = 0.045$ and $RR (95\%CI) = 1.47 (0.98 - 2.20)$. There is a correlation between ESBL-producing and non-ESBL-producing bacterial infections with outcomes in infants and children. Patients with ESBL bacterial infection have a 1.47 times greater chance of survival than non ESBL patients. The relationship between ESBL infection and length of stay was obtained with p value = 0.571. There was no correlation between ESBL-producing and non-ESBL-producing bacterial infections with length of stay in infants and children. The correlation between ESBL infection and duration of antibiotic use was p value = 0.472. There was no relationship between ESBL-producing and non-ESBL-producing bacterial infections and the duration of antibiotic use in infants and children.

Conclusion: There is a correlation between ESBL-producing and non-ESBL-producing bacterial infections with outcomes in infants and children

Keywords: *Enterobacteriaceae*, ESBL, outcome, length of stay, duration of antibiotic usage.