

INTISARI

Latar Belakang: Kasus infeksi yang meningkat menyebabkan penggunaan antibiotik juga meningkat. Penggunaan antibiotik yang terus menerus dan tidak sesuai serta paparan infeksi di rumah sakit memicu munculnya *Multidrug-resistant organisms* (MDRO). Peningkatan prevalensi MDRO secara global dan hasil survei dari rumah sakit besar di Indonesia menjadi tantangan bagi setiap rumah sakit dalam pencegahan resistensi antimikroba.

Tujuan Penelitian: Mengetahui prevalensi dan hubungan kesesuaian penggunaan antibiotik definitif terhadap *outcome* klinik pada pasien dengan infeksi MDRO di Rumah Sakit Akademik UGM.

Metode Penelitian: Penelitian ini dilakukan secara observasional dengan rancangan metode *cross sectional* yang diambil secara retrospektif menggunakan sampel pasien MDRO rawat inap pada periode Januari–Desember 2022.

Hasil Penelitian: Diperoleh data prevalensi MDRO di Rumah Sakit Akademik UGM periode Januari–Desember 2022 adalah ESBL *producing E.colii* 58,42%, ESBL *producing K.pneumonia* 36,90%, ESBL *producing E.cloacae* 12,76%, Carbapenem-Resistant *A.baumannii* (CRAb) 34,31%, XDR *A.baumannii* 1,47%, Carbapenem-resistant *P. aeroginos* 3,20%, Methicillin-resistant *S. aureus* (MRSA) 20,27% dan Methicillin-resistant *S. koagulasi negatif* 8,33%. Data evaluasi kesesuaian penggunaan antibiotik definitif pada pasien MDRO berdasarkan kategori *Gyssens* sebesar 92 (63,4%) antibiotik yang sesuai dan 53 (36,6%) antibiotik yang tidak sesuai yaitu kategori IIIa (Durasi terlalu lama), IIa (Dosis tidak sesuai) dan IIb (Interval tidak sesuai) dan tidak terdapat hubungan antara kesesuaian penggunaan antibiotik dengan *outcome* klinik berupa perbaikan kondisi pasien (membaik/tidak membaik) ($p=0,437$) namun terdapat hubungan dengan LOS ($p=0,006$).

Kesimpulan: Prevalensi MDRO di Rumah Sakit Akademik UGM periode Januari–Desember 2022 adalah ESBL *producing E.colii* 58,42%, ESBL *producing K.pneumonia* 36,90%, ESBL *producing E.cloacae* 12,76%, CRAb 34,31%, XDR *A.baumannii* 1,47%, Carbapenem-resistant *P. aeroginos* 3,20%, Methicillin-resistant *S. aureus* (MRSA) 20,27% dan Methicillin-resistant *S. koagulasi negatif* 8,33% dan tidak terdapat hubungan antara kesesuaian penggunaan antibiotik dengan *outcome* klinik berupa perbaikan kondisi pasien namun terdapat hubungan antara kesesuaian penggunaan antibiotik dengan LOS.

Kata Kunci : *Gyssens*, *Multidrug-Resistant Organisms* (MDRO), Prevalensi

ABSTRACT

Background: Increasing cases of infection cause the use of antibiotics to also increase. Continuous and inappropriate use of antibiotics and exposure to infections in hospitals trigger the emergence of multidrug-resistant organisms (MDRO). The increasing prevalence of MDRO globally and survey results from large hospitals in Indonesia are a challenge for every hospital in preventing antimicrobial resistance.

Research Objective: To determine the prevalence and relationship between appropriate use of definitive antibiotics and clinical outcomes in patients with MDRO infections at the UGM Academic Hospital.

Research Method: This research was conducted observationally with a cross-sectional method design taken retrospectively using a sample of inpatient MDRO patients in the period January–December 2022.

Research Results: MDRO prevalence data obtained at the UGM Academic Hospital for the period January–December 2022 were ESBL producing *E.colii* 58,42%, ESBL producing *K.pneumonia* 36,90%, ESBL producing *E.cloacae* 12,76%, Carbapenem-Resistant *A.baumannii* (CRAb) 34,31%, XDR *A.baumannii* 1,47%, Carbapenem-resistant *P. aeroginos* 3,20%, Methicillin-resistant *S. aureus* (MRSA) 20,27% and Methicillin-resistant *S. koagulasi negatif* 8,33%. Data evaluating the suitability of definitive antibiotic use in 110 MDRO patients based on the Gyssens category was 92 (63.4%) appropriate antibiotics and 53 (36.6%) inappropriate antibiotics, namely categories IIIa (Duration too long), IIa (Inappropriate dose) and IIb (Inappropriate interval) and there was no relationship between the appropriateness of antibiotic use and clinical outcomes in the form of improvement in the patient's condition (improved/not improved) ($p=0.437$) but there was a relationship with LOS ($p=0.006$).

Conclusion: The prevalence of MDRO at UGM Academic Hospital for the period January–December 2022 is ESBL-producing *E.colii* 58.42%, ESBL-producing *K.pneumonia* 36.90%, ESBL-producing *E.cloacae* 12.76%, CRAb 34.31%, XDR *A.baumannii* 1.47%, Carbapenem-resistant *P. aeroginosis* 3.20%, Methicillin-resistant *S. aureus* (MRSA) 20.27% and Methicillin-resistant *S. coagulation negative* 8.33% and there was no relationship between appropriate the use of antibiotics with clinical outcomes in the form of improvement in the patient's condition, but there is a relationship between the appropriate of antibiotic use and LOS.

Keywords: Gyssens, Multidrug-Resistant Organisms (MDRO), Prevalence.