

# Evaluasi penggunaan restricted antibiotic di Rumah Sakit Cipto Mangunkusumo = Evaluation of restricted antibiotic use in Cipto Mangunkusumo Hospital

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## Abstrak

### <b>ABSTRAK</b>

#### Latar belakang

Restricted antibiotics adalah golongan antibiotik spektrum luas yang termasuk dalam kategori lini 3 kebijakan dan pedoman penggunaan antibiotik PPRA. Restricted antibiotics digunakan secara global terkait dengan banyaknya kejadian resistensi bakteri. Penggunaan restricted antibiotic yang tidak tepat dapat menimbulkan masalah resistensi hingga superinfeksi yang lebih besar, peningkatan mortalitas dan biaya pengobatan. Restriksi pemberian antibiotik ini didasarkan pada risiko resistensi yang lebih besar yang dapat ditimbulkannya, toksisitas dan pertimbangan farmakoekonomik.

#### Tujuan

Untuk mengevaluasi penggunaan restricted antibiotic di IGD RSCM.

#### Metode

Penelitian dilakukan secara kohort prospektif, deskriptif dengan mengambil data pasien usia > 18 tahun yang mendapatkan restricted antibiotic di IGD RSCM selama periode 29 Juli-31 September 2015. Kuantitas penggunaan restricted antibiotic dievaluasi dengan metode ATC/DDD WHO (DDD/100 bed-days) dan kualitas penggunaan restricted antibiotic dievaluasi dengan metode Gyssen. Biaya penggunaan restricted antibiotic dihitung berdasarkan ketetapan biaya oleh RSCM. Penelitian ini juga melihat gambaran dan kesesuaian hasil kultur kuman dengan terapi yang diberikan serta menilai outcome klinik pasien yang mendapatkan restricted antibiotic di IGD RSCM.

#### Hasil penelitian

Hasil penelitian menunjukkan kuantitas penggunaan restricted antibiotic mencapai 78,3 DDD/100 bed-days dengan penggunaan terbanyak adalah meropenem dan sefepim. Sebanyak 86,7% restricted antibiotic diberikan secara empirik. Hasil pemeriksaan kultur kuman dan uji kepekaan kuman menunjukkan *Acinetobacter baumannii* dan *Pseudomonas aeruginosa* merupakan isolat kuman yang menunjukkan resistensi terhadap beberapa restricted antibiotic. Berdasarkan kriteria Gyssen, penggunaan restricted antibiotic termasuk kategori tepat sebesar 45,7%. Biaya terbesar penggunaan restricted antibiotic terdapat pada meropenem dan sefepim. Sebanyak 34 pasien meninggal selama perawatan dengan hasil kultur yang tidak sesuai dengan restricted antibiotic yang digunakan.

#### Kesimpulan

Kuantitas penggunaan dan prevalensi ketidaktepatan penggunaan restricted antibiotic secara umum cukup tinggi di IGD RSCM. Beberapa bakteri menunjukkan resistensi terhadap beberapa restricted antibiotic.

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**ABSTRACT****Background**

Restricted antibiotics have been used globally due to high prevalence of bacterial resistance. The inappropriate use of restricted antibiotic contributes significantly to the increase of antimicrobial resistance with many consequence such as risk of toxicity, increase of mortality and cost of treatment. Restriction of these antibiotics based on risk of resistance, toxicity and pharmacoconomics considerations.

**Objective**

To evaluate the use of restricted antibiotic in adult patients in emergency unit of Cipto Mangunkusumo hospital.

**Methods**

We performed descriptive, cohort prospective study of adult patients those admitted to the emergency unit of Cipto Mangunkusumo hospital. We reviewed the medical record and electronic health record every day. Subject were patients aged more than 18 years old who received restricted antibiotic from July 29 to September 31, 2015 and all patients were followed up every day until they discharged from hospital. The use of restricted antibiotics were quantitatively evaluated using the ATC/DDD system (DDD/100 bed-days) and qualitatively analyzed using the Gyssen method. All the cost of restricted antibiotic use were calculated using standard price in Cipto Mangunkusumo hospital. This study also assess the clinical outcome and the pattern of sensitivity test of patient those received restricted antibiotic in emergency unit of Cipto Mangunkusumo hospital.

**Results**

The study results showed that the quantity of restricted antibiotic were 78,3 DDD/100 bed-days during July 29 to September 31, 2015 in the emergency unit of Cipto Mangunkusumo hospital. The most frequently used restricted antibiotic were meropenem dan sefepim. Restricted antibiotic used as empiric therapy was 86.7%. The culture and sensitivity test results showed that *Acinetobacter baumannii* and *Pseudomonas aeruginosa* were isolate that have resistance to several restricted antibiotics. Only 45.7% restricted antibiotic use were considered to be definitely appropriate based on Gyssen method. Meropenem and cefepim contribute to the higher cost during hospitalization and 34 patients used restricted antibiotic died during treatment have non concurrent of sensitivity to restricted antibiotic used.

**Conclusion**

The quantity of restricted antibiotic and prevalence of inappropriate restricted antibiotic use in this emergency department of Cipto Mangunkusumo hospital was generally high. Some bacterias have been resistance to several restricted antibiotic.