

**MICROBIAL PATTERN IN HIV PATIENT WITH BACTERIAL INFECTION
In Intermediate and Infectious Care Unit
Soetomo Regional Public Hospital, Surabaya**

ABSTRACT

Background: HIV patients with a weak immune system are very vulnerable to the opportunistic infections which are currently a major cause of morbidity and mortality. Opportunistic infections can trigger systemic endothelial activation and end up as a septic condition. In Indonesia currently there is no routine monitoring of bacterial epidemiological that becomes a source of opportunistic infections in HIV patients.

Purpose: To determine the characteristics of HIV patients who are admitted to hospital and to know the microbial pattern in HIV patients with bacterial infection.

Methods: This research is a descriptive study with a cross-sectional observational study design. Data obtained from medical records of patients in Soetomo Regional Public Hospital Surabaya in the period August 2019 - February 2020

Result: Patients are dominated by men (78.1%), within 30-39 years old (43.8%), graduated senior high school (67.2%), working as non-government employees (48.4%), Muslim (93.8%), single (50%), Surabaya's address (62.5%), with the incidence of sepsis 29.7%, death 32.8%, and CD4 <200 cells/ μ L 31.2%. The most common opportunistic infections are Candidiasis oris (60.9%) and Tuberculosis (56.3%). Of the 64 patients, 83 specimens were found with the most bacterial types are gram-negative bacteria 44.6%, while gram-positive bacteria 15.7%, a mixed 2.4% and negative or normal flora 37.3%. The highest prevalence of gram-negative bacteria was *Klebsiella pneumoniae* (35.15) followed by *Escherichia coli* (10.8%), *Pseudomonas aeruginosa* (8.1%) and *Acinetobacter baumannii* (8.1%). The highest prevalence of gram-positive bacteria was *Streptococcus mitis / oralis* (30.7%), followed by *Staphylococcus aureus* (23.1%) and *Staphylococcus epidermidis* (15.4%). Turnaround time or the time needed for culture microbiological examination of blood, sputum, urine and feces / pus were 4.63 (\pm 0.8), 3.02 (\pm 1.1), 2.89 (\pm 0.8) and 3.75 (\pm 0.9).

Conclusion: Most HIV patients are infected with gram-negative bacteria compared to gram-positive. In the future, it is expected that routine culture microbiological examination can be carried out as an effort to promote and prevent opportunistic infections that can reduce morbidity and mortality in HIV/AIDS patients.

Keyword: HIV, AIDS, Opportunistic Infection, Bacterial Infection, Turnaround Time

**POLA MIKROBA PADA PASIEN HIV DENGAN INFEKSI BAKTERIAL
Di Unit Perawatan Intermediate dan Penyakit Infeksi (UPIPI)
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ABSTRAK

Latar Belakang: Pasien HIV dengan sistem imun yang lemah sangat rentan terhadap kejadian infeksi oportunistik yang saat ini menjadi penyebab utama morbiditas dan mortalitas. Adanya infeksi oportunistik dapat memicu terjadinya aktivasi endotel sistemik dan berakhir menjadi kondisi sepsis. Di Indonesia saat ini belum ada pemantauan rutin epidemiologi bakteri yang sering menjadi sumber infeksi oportunistik pada pasien HIV.

Tujuan: Penelitian ini bertujuan untuk mengetahui karakteristik pasien HIV yang masuk rawat inap dan mengetahui pola mikroba pada pasien HIV dengan Infeksi Bakterial.

Metode: Penelitian ini merupakan penelitian deskriptif dengan rancangan studi potong lintang observasional. Data didapatkan dari rekam medik pasien RSUD Dr. Soetomo Surabaya periode Agustus 2019 – Februari 2020.

Hasil: Pasien didominasi oleh laki laki (78.1%), dengan rentang usia 30 – 39 tahun (43.8%), tamat SMA (67.2%), pegawai swasta (48.4%), beragama Islam (93.8%), belum menikah (50%), alamat Surabaya (62.5%), dengan kejadian sepsis 29.7%, meninggal 32.8%, dan CD4 < 200 sel/ μ L 31.2%. Infeksi oportunistik yang paling banyak ditemukan Candidiasis oris (60.9%) dan Tuberkulosis (56.3%). Dari 64 pasien didapatkan 83 spesimen dengan jenis bakteri terbanyak bakteri gram negatif 44.6% sedangkan bakteri gram positif 15.7% serta campuran 2.4% dan negatif atau flora normal 37.3%. Prevalensi bakteri gram negatif terbanyak *Klebsiella pneumoniae* (35.15) diikuti *Escherichia coli* (10.8%), *Pseudomonas aeruginosa* (8.1%) dan *Acinetobacter baumannii* (8.1%). Prevalensi bakteri gram positif terbanyak *Streptococcus mitis/oralis* (30.7%), diikuti *Staphylococcus aureus* (23.1%) dan *Staphylococcus epidermidis* (15.4%). *Turnaround time* atau waktu yang diperlukan untuk pemeriksaan mikrobiologi kultur spesimen darah, sputum, urine dan feses/pus berturut turut 4.63 (\pm 0.8), 3.02 (\pm 1.1), 2.89 (\pm 0.8) dan 3.75 (\pm 0.9).

Kesimpulan: Pasien HIV paling banyak terinfeksi bakteri gram negatif dibandingkan gram positif. Pada waktu yang akan datang diharapkan pemeriksaan kultur rutin dapat dilakukan sebagai upaya promosi dan prevensi kejadian infeksi oportunistik sehingga dapat menurunkan morbiditas dan mortalitas pada pasien HIV/AIDS.

Kata Kunci: HIV, AIDS, Infeksi Oportunistik, Infeksi Bakteri, TAT