

## ABSTRACT

### THE RELATIONSHIP BETWEEN QUANTITATIVE EVALUATION OF RESERVE GROUP ANTIBIOTICS AND ANTIBIOGRAMS AT RSUD DR. H. ABDUL MOELOEK BANDAR LAMPUNG

By

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**Background:** Given the high complexity of diseases treated at this hospital, the use of reserve group antibiotics is a major focus in efforts to control antibiotic resistance. This study aims to analyze the patterns of reserve group antibiotic use and their relationship with antibiograms at RSUD Dr. H. Abdul Moeloek, Lampung Province.

**Methods:** This research utilized a non-experimental observational design with a quantitative approach. Data were collected retrospectively from PPRA forms and patient bacterial culture sensitivity test results during the period of July to December 2023. The data were analyzed using normality and linearity tests, followed by a Spearman rank correlation test to determine the relationship.

**Results:** The study showed the total usage of reserve group antibiotics and their Defined Daily Dose (DDD): Vancomycin (42.1 g, DDD 21.05), Meropenem (96.5 g, DDD 32.167), Ceftazidime (32 g, DDD 8), Cefepime (25 g, DDD 12.5), Cefoperazone Sulbactam (34.3 g, DDD 8.75), Amikacin (19 g, DDD 19), and Moxifloxacin (6 g, DDD 15). The test results indicated a moderate positive correlation ( $r = 0.556$ ) between total antibiotic DDD and resistance percentage, and a moderate negative correlation ( $r = -0.532$ ) between total antibiotic DDD and sensitivity percentage.

**Conclusion:** Statistically, there is a significant difference between the sensitivity and resistance of reserve group antibiotics and their total DDD.

**Keywords:** Reserve Group Antibiotics, Antibiogram, Antibiotic Resistance, Quantitative Evaluation.

## ABSTRAK

### HUBUNGAN EVALUASI KUANTITATIF ANTIBIOTIK KELOMPOK RESERVE DENGAN ANTIBIOGRAM DI RSUD DR. H. ABDUL MOELOEK BANDAR LAMPUNG

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**Latar Belakang:** Mengingat tingginya kompleksitas penyakit yang dirawat di rumah sakit ini, penggunaan antibiotik kelompok Reserve menjadi perhatian utama dalam upaya pengendalian resistensi antibiotik. Penelitian ini bertujuan untuk menganalisis pola penggunaan antibiotik kelompok Reserve dan hubungannya dengan antibiogram di RSUD Dr. H. Abdul Moeloek Provinsi Lampung.

**Metode:** Penelitian ini menggunakan desain observasional non eksperimental dengan pendekatan kuantitatif, di mana data dikumpulkan secara retrospektif dari Form PPRA dan hasil uji sensitivitas kultur bakteri pasien selama periode Juli hingga Desember 2023. Data dianalisis dengan uji normalitas dan linearitas serta dicari hubungannya dengan korelasi uji non parametrik spearman (*Spearman rank correlation*).

**Hasil:** Hasil penelitian menunjukkan total penggunaan antibiotik kelompok reserve dan total DDD (Define Daily Dose): Vancomycin (42,1 g, DDD 21,05), Meropenem (96,5 g, DDD 32,167), Ceftazidime (32 g, DDD 8), Cefepime (25 g, DDD 12,5), Cefoperazone Sulbactam (34,3 g, DDD 8,75), Amikacin (19 g, DDD 19), dan Moksifloksasin (6 g, DDD 15). Hasil uji menunjukkan korelasi positif tingkat sedang ( $r = 0,556$ ) antara total DDD antibiotik dan persentase resistensi, serta korelasi negative tingkat sedang ( $r = -0,532$ ) antara total DDD antibiotik dan persentase sensitivitas.

**Kesimpulan:** Secara statistik terdapat korelasi yang bermakna pada hasil penelitian antara sensitivitas dan resistensi antibiotik kelompok reserve terhadap total DDD.

**Kata kunci :** Antibiotik Kelompok Reserve, Antibiogram, Resistensi Antibiotik, Evaluasi Kuantitatif.