

## INTISARI

**Latar Belakang dan Tujuan Penelitian:** Pasien *intensive care unit* (ICU) berisiko mengalami interaksi obat dan *adverse drug reaction* (ADR) akibat polifarmasi, kompleksitas penyakit, dan kegagalan organ dengan tingkat keparahan interaksi obat yang berbeda. Penelitian ini bertujuan untuk mengetahui frekuensi interaksi obat potensial dan aktual, serta hubungan tingkat keparahan interaksi obat dengan ADR pada pasien ICU di RS Akademik UGM.

**Metode Penelitian:** Penelitian dilakukan dengan rancangan kohort retrospektif pada pasien ICU RS Akademik UGM periode April 2022–April 2023. Pengambilan sampel menggunakan teknik *consecutive sampling* terhadap 26 pasien pada setiap kelompok, kelompok interaksi obat *major* dan/atau *severe* dan interaksi obat *minor* dan/atau *moderate*, yang memenuhi kriteria inklusi. Penilaian keparahan interaksi obat berdasarkan Lexicomp *Interaction* dan kausalitas ADR yang dicurigai berkaitan dengan interaksi obat menggunakan metode *World Health Organization-Uppsala Monitoring Centre* (WHO-UMC). Analisis data menggunakan analisis univariat, bivariat, dan analisis multivariat.

**Hasil Penelitian:** Terdapat 320 kasus interaksi obat potensial yang didominasi oleh tingkat keparahan *moderate* ( $n=203$ , 63,4%) dan interaksi antara *fentanyl* dengan obat lain ( $n=65$ , 20,3%). Terdapat 23 kasus interaksi obat aktual yang didominasi oleh interaksi *fentanyl-midazolam* dengan tingkat keparahan *major* yaitu terjadi pada 9 pasien (17,3%) dengan ADR meliputi bradikardi, depresi pernapasan, mulut kering, dan hipotensi. Pasien dengan tingkat keparahan interaksi obat *major* dan/atau *severe* memiliki risiko 2,5 kali lebih tinggi mengalami ADR dibanding interaksi obat *minor* dan/atau *moderate* (RR 2,500, 95% CI 1,152 – 5,427).

**Kesimpulan:** Tiga ratus dua puluh kasus interaksi obat potensial menyebabkan 23 kasus interaksi obat aktual (7,2%). Terdapat hubungan antara tingkat keparahan interaksi obat dengan ADR ( $p=0,011$ ).

**Kata Kunci:** *Adverse Drug Reaction, Intensive Care Unit, Interaksi Obat*

## ABSTRACT

**Background:** Intensive care unit (ICU) patients prone to experience drug interaction and adverse drug reaction (ADR) due to polypharmacy, disease complexity, and organ failure. This research aims to estimate the frequency of potential and actual drug interaction, also the association between drug interaction severity levels and ADR among ICU patients in Academic Hospital UGM.

**Methods:** This research conducted with retrospective cohort design among ICU patients in Academic Hospital UGM on April 2022–April 2023. Consecutive sampling technique was applied for 26 patients in each group, with major and/or severe drug interactions and minor and/or moderate drug interactions, who met the inclusion criteria. Assessment of drug interaction severity levels based on Lexicomp Interaction and the causality of ADRs related to drug interactions using the World Health Organization-Uppsala Monitoring Center (WHO-UMC) method. Data analysis uses univariate, bivariate, and multivariate analysis.

**Results:** There were 320 cases of potential drug interactions dominated by moderate severity ( $n=203$ , 63.4%) and interactions between fentanyl-other drugs ( $n=65$ , 20.3%). There were 23 cases of actual drug interactions, dominated by fentanyl-midazolam drug interaction with major severity occurred in 9 patients (17.3%) with ADRs including bradycardia, respiratory depression, dry mouth, and hypotension. Patients with major and/or severe drug interactions have a 2.5 times higher risk of experiencing ADR than minor and/or moderate (RR 2,500, 95% CI 1,152 – 5,427).

**Conclusion:** Three hundred and twenty cases of potential drug interactions led to 23 cases of actual drug interactions (7.2%). There is an association between drug interaction severity levels and ADR ( $p=0.011$ ).

**Keywords:** Adverse drug reaction, drug interaction, intensive care unit