

ABSTRACT

Intravenous drug administration is commonly used in hospitals for patients who need rapid pharmacological effects or patients who cannot take oral administration. Preparation for intravenous drug administration requires special condition because there are some risks, including incompatibility and instability. This study aims to assess the prevalence of intravenous drug incompatibility and instability in critical care patients and to investigate the risk factors that affect drug incompatibilities such as Length of stay in Intensive Care Unit, Number of IV drugs, and causes of hospitalization.

This was a cross sectional, observational study. Subjects of this study were critical care patients at ICU, ICCU, and HCU who received at least one intravenous drug administration in two hospital (RSUP. Dr. Sardjito and UGM Hospital) in Yogyakarta Province. The data were taken from January to April 2018 by prospectively. A number of 123 patients included of this study. Potential drug incompatibility and instability were analysed based on Handbook of Injectable Drug and other references. The association between incompatibility and the risk factors were investigated using Chi-square test.

Total number of incompatibility events occurred in 33 patients (26.82%) with the total events were 39 (5.6%) events. The most common type of incompatibility was potential precipitation by 33 (84.5%) events, the potential precipitation occur in simultaneously administration between phenytoin and Normal Saline (NS) 0,9%; phenytoin and dexamethasone; metronidazole and pantoprazole; phenytoin and ketorolac. There were no problems that occurred in stability of drugs during the study. There were an association between the incidence of incompatibility and cause of hospitalization (circulatory system disease and injury and certain other consequences of external causes) and there were an association between the incidence of incompatibility and the Length of stay in Intensive Care Unit of patient in intensive care ($p < 0.05$).

Keywords: Intravenous drug administration, Incompatibility, Instability, Risk Factors, Intensive Care Unit

INTISARI

Pemberian obat secara intravena banyak digunakan di Rumah Sakit untuk pasien yang membutuhkan efek farmakologis yang lebih cepat atau pasien yang tidak dapat menggunakan obat secara oral. Namun, penyiapan untuk obat intravena memerlukan kondisi khusus karena ada beberapa risiko, seperti inkompatibilitas dan instabilitas. Penelitian ini bertujuan untuk mengetahui prevalensi inkompatibilitas dan instabilitas obat intravena pada pasien kritis serta untuk mengetahui faktor risiko yang mempengaruhi inkompatibilitas obat seperti lama tinggal pasien di Ruang Perawatan Intensif, jumlah obat intravena yang digunakan pasien dan penyebab rawat inap pasien.

Penelitian ini menggunakan desain *cross sectional*. Subyek penelitian ini adalah pasien kritis di ruang ICU, ICUU dan HCU yang menerima setidaknya satu obat intravena di dua Rumah Sakit (RSUP. Dr. Sardjito dan Rumah Sakit UGM) di Provinsi Yogyakarta. Pengambilan data dilakukan secara prospektif pada Januari hingga April 2018. Sejumlah 123 pasien termasuk dalam penelitian ini. Potensial inkompatibilitas dan instabilitas obat dianalisis berdasarkan *Handbook of Injectable Drug* Edisi 17 dan referensi lainnya. Hubungan antara inkompatibilitas dan faktor risiko dianalisis dengan menggunakan uji *Chi-square*.

Jumlah total kejadian inkompatibilitas terjadi pada 33 pasien (26,82%) dengan total kejadian sebanyak 39 (5,6%). Jenis inkompatibilitas yang paling umum adalah potensi endapan dengan total kejadian sebanyak 33 (84,5%), potensi endapan terjadi pada pemberian obat intravena secara bersamaan antara fenitoin and Normal Saline (NS) 0,9%; fenitoin and deksametason; metronidazole and pantoprazole; fenitoin and ketorolak. Pada penelitian ini tidak ditemukan adanya masalah ketidakstabilan pada pemberian obat intravena yang terjadi. Terdapat antara penyebab dirawat pasien (penyakit sistem peredaran darah dan cedera dan konsekuensi lain dari penyebab eksternal) dan terdapat hubungan antara kejadian inkompatibilitas dengan lama hari rawat pasien di ruang perawatan intensif ($p < 0,05$).

Kata Kunci: Pemberian Obat Intravena, Inkompatibilitas, Instabilitas, Faktor Resiko, Intensive Care Unit