

## INTISARI

### PERBANDINGAN AKURASI SKOR MODIFIKASI AGE, DEHYDRATION, RESPIRATORY FAILURE, ORIENTATION DISTURBANCE, SYSTOLIC BLOOD PRESSURE (ADROP) DAN SKOR PNEUMONIA SEVERITY INDEX (PSI) DALAM MENENTUKAN PROGNOSIS PADA PASIEN HEMODIALISIS RUTIN DENGAN PNEUMONIA KOMUNITAS DI RSUP DR. SARDJITO

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**Pendahuluan :** Pasien hemodialisis memiliki kerentanan tinggi terhadap infeksi, salah satunya pneumonia komunitas yang menyebabkan morbiditas dan mortalitas tinggi. Penilaian awal yang cermat dan akurat diperlukan sebelum memulai tatalaksana pasien pneumonia komunitas untuk menentukan prognosis pasien sedini mungkin. Dari penelitian sebelumnya, skor modifikasi ADROP terbukti akurat dalam memprediksi prognosis.

**Tujuan :** mengetahui perbandingan akurasi skor modifikasi A-DROP dan skor PSI dalam menentukan prognosis (ICU admisi dan mortalitas) pada pasien hemodialisis dengan pneumonia komunitas di RSUP dr. Sardjito Yogyakarta.

**Metode :** Desain penelitian ini adalah kohort retrospektif dengan menggunakan data sekunder dari rekam medis pasien hemodialisis dengan pneumonia komunitas yang dirawat di RSUP Dr. Sardjito pada Januari 2022 sampai dengan 31 Desember 2024. Pasien yang memenuhi kriteria inklusi dan eksklusi dimasukkan dalam penelitian. Data-data variabel bebas diambil dari data rekam medis. Data kematian 7 hari, kematian 14 hari, ICU admisi, ICU sekunder dan *event* digunakan sebagai luaran. Nilai AUC dari kurva ROC digunakan untuk menilai kemampuan prediksi kedua skor dan menentukan cut-off optimal. Prediktor diuji dengan analisis bivariat menggunakan *chi square* lalu dilanjutkan regresi logistik untuk menentukan prediktor yang benar-benar independent.

**Hasil :** Penelitian ini melibatkan total 289 subjek pasien hemodialisis dengan pneumonia. Skor modifikasi ADROP memiliki kemampuan tingkat akurasi yang lebih baik daripada PSI (AUC 0,782 ; CI 95%: 0,73–0,84 VS 0,693 ; CI 95%: 0,63–0,75). Nilai *cut-off* optimal untuk ADROP  $\geq 1,5$  dan PSI  $\geq 4,5$ . ADROP  $\geq 1,5$  memiliki sens (56,4%) spec (96%) LR+ (14) dan PSI  $\geq 4,5$  memiliki sens (51,5%) spec (76,6%) LR+ (2,2). Faktor independen yang signifikan adalah ADROP  $\geq 1,5$  terhadap 5 luaran ( $P < 0,001$ ; OR 21,78 – 61,62) kecuali pada ICU sekunder bersifat protektif ( $p = 0,013$ ; OR 0,45). Akses CVC terhadap 7 hari kematian, ICU admisi dan *event* gabungan ( $p = 0,031$ ; OR *Adj.* 3,29,  $p = 0,003$ ; OR *Adj.* 2,26,  $p = 0,005$ ; OR *Adj.* 2,4) dan obesitas terhadap ICU admisi ( $p = 0,021$ ; OR *adj.* 1,92).

**Kesimpulan :** Skor modifikasi ADROP dapat digunakan sebagai alat skrining standar di unit gawat darurat maupun klinik untuk pasien hemodialisis.

**Kata Kunci :** Pneumonia komunitas, *Community-Acquired Pneumonia*, Hemodialisis, Gagal ginjal kronis, Modifikasi ADROP, PSI

## ABSTRACT

### COMPARISON OF THE ACCURACY OF THE MODIFIED AGE, DEHYDRATION, RESPIRATORY FAILURE, ORIENTATION DISTURBANCE, SYSTOLIC BLOOD PRESSURE (ADROP) SCORE AND THE PNEUMONIA SEVERITY INDEX (PSI) IN PREDICTING PROGNOSIS IN MAINTENANCE HEMODIALYSIS PATIENTS WITH COMMUNITY-ACQUIRED PNEUMONIA AT DR. SARDJITO GENERAL HOSPITAL

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**Background:** Hemodialysis patients are highly susceptible to infections, including community-acquired pneumonia (CAP), which contributes significantly to morbidity and mortality. An accurate and thorough initial assessment is essential before initiating treatment for CAP to determine the patient's prognosis as early as possible. Previous studies have demonstrated that the modified ADROP score is accurate in predicting prognosis.

**Objective:** To compare the accuracy of the modified ADROP score and the Pneumonia Severity Index (PSI) in determining prognosis (ICU admission and mortality) in hemodialysis patients with community-acquired pneumonia at Dr. Sardjito General Hospital, Yogyakarta.

**Methods:** This study employed a retrospective cohort design using secondary data from the medical records of hemodialysis patients diagnosed with community-acquired pneumonia and hospitalized at Dr. Sardjito General Hospital between January 2022 and December 31, 2024. Patients meeting the inclusion and exclusion criteria were enrolled. Independent variables were collected from medical records. Outcomes included 7-day mortality, 14-day mortality, ICU admission, secondary ICU admission, and composite events. ROC curve AUC values were used to assess the predictive ability of both scores and to determine the optimal cut-off values. Predictors were first analyzed using bivariate analysis (chi-square test), followed by logistic regression to identify independent predictors.

**Results:** A total of 289 hemodialysis patients with pneumonia were included. The modified ADROP score demonstrated superior predictive accuracy compared to the PSI (AUC 0.782; 95% CI: 0.73–0.84 vs. 0.693; 95% CI: 0.63–0.75). The optimal cut-off values were ADROP  $\geq$  1.5 and PSI  $\geq$  4.5. ADROP  $\geq$  1.5 showed sensitivity (56.4%), specificity (96%), and positive likelihood ratio (LR+) of 14; whereas PSI  $\geq$  4.5 showed sensitivity (51.5%), specificity (76.6%), and LR+ of 2.2. The only consistent independent predictor was ADROP  $\geq$  1.5 for five outcomes ( $p < 0.001$ ; OR 21.78–61.62), except for secondary ICU admission where it had a protective effect ( $p = 0.013$ ; OR 0.45). Other independent predictors were CVC access for 7-day mortality, ICU admission, and composite events ( $p = 0.031$ ; adjusted OR 3.29,  $p = 0.003$ ; OR 2.26,  $p = 0.005$ ; OR 2.4), and obesity for ICU admission ( $p = 0.021$ ; adjusted OR 1.92).

**Conclusion:** The modified ADROP score can be considered a standard screening tool in emergency departments and outpatient hemodialysis clinics.

**Keywords:** Community-acquired pneumonia, CAP, hemodialysis, chronic kidney disease, modified ADROP, PSI