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Validasi Skor OASIS (Oxford Acute Severity Illness Score) Ddan Skor Apache II sebagai Prediktor Kematian pada Pasien Icu Dewasa di RSUD Karsa Husada Batu: Studi Retrospektif
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INTISARI

Latar Belakang: Prediksi mortalitas yang akurat di Intensive Care Unit (ICU) merupakan komponen krusial dalam stratifikasi risiko, triase klinis, dan alokasi sumber daya secara optimal. Sistem skoring keparahan penyakit seperti Acute Physiology and Chronic Health Evaluation II (APACHE II) dan Oxford Acute Severity of Illness Score (OASIS) telah dikembangkan untuk memenuhi kebutuhan tersebut. Validasi eksternal kedua skor pada populasi ICU di Indonesia masih sangat terbatas.

Tujuan: Memvalidasi skor OASIS dan skor APACHE II sebagai prediktor kematian pada pasien dewasa yang dirawat di ICU RSUD Karsa Husada Batu.

Metode: Studi kohort retrospektif dilakukan pada 200 pasien ICU dewasa di RSUD Karsa Husada Batu periode Januari–Desember 2023. Kinerja diskriminasi diukur menggunakan Area *Under the Receiver Operating Characteristic Curve* (AUC-ROC) dengan perbandingan antar model menggunakan Uji DeLong. Kalibrasi model dievaluasi dengan Hosmer-Lemeshow *Goodness-of-Fit test*. Titik potong optimal ditentukan berdasarkan Indeks Youden dan dihitung nilai sensitivitas, spesifisitas, Positive Predictive Value (PPV), dan Negative Predictive Value (NPV). Validitas konkuren dinilai melalui korelasi Spearman antara kedua skor. Luaran yang dinilai adalah mortalitas selama perawatan di rumah sakit.

Hasil: Dari 200 subjek, angka mortalitas mencapai 63,0% (n=126). Median usia populasi adalah 60,0 tahun [IQR 49,0–68,0], didominasi kelompok geriatri (≥60 tahun) sebesar 52,0%. Kalibrasi kedua skor baik (Hosmer-Lemeshow: APACHE II p=0,253; OASIS p=0,743). APACHE II memiliki kemampuan diskriminasi lebih tinggi (AUC 0,816; 95%CI 0,755–0,876; kategori ‘Baik’) dibandingkan OASIS (AUC 0,790; 95%CI 0,726–0,854; kategori ‘Cukup’), namun perbedaan tidak bermakna secara statistik (Uji DeLong p=0,417). Pada titik potong optimal >32, OASIS menghasilkan PPV lebih tinggi (85,5%) dibandingkan APACHE II pada titik potong >20 (PPV 80,7%), dengan spesifisitas OASIS yang superior (81,08% vs 67,57%).

Kesimpulan: Skor OASIS memiliki validitas setara dengan skor APACHE II dalam memprediksi kematian pasien ICU dewasa di RSUD Karsa Husada Batu.

Kata Kunci: OASIS, APACHE II, Mortalitas ICU, Prediktor Kematian, Validasi Eksternal, Terapi Intensif.

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ABSTRACT

Background: *Accurate mortality prediction in the Intensive Care Unit (ICU) is a crucial component of risk stratification, clinical triage, and optimal resource allocation. Disease severity scoring systems such as the Acute Physiology and Chronic Health Evaluation II (APACHE II) and the Oxford Acute Severity of Illness Score (OASIS) have been developed to address this need. External validation of both scores in Indonesian ICU populations remains markedly limited.*

Objectives: *To validate the OASIS score and the APACHE II score as predictors of mortality in adult patients admitted to the ICU of RSUD Karsa Husada Batu.*

Methods: *A retrospective cohort study was conducted among 200 adult ICU patients at RSUD Karsa Husada Batu over the period January–December 2023. Discrimination performance was assessed using the Area Under the Receiver Operating Characteristic Curve (AUC-ROC), with between-model comparisons performed using the DeLong test. Model calibration was evaluated using the Hosmer–Lemeshow Goodness-of-Fit test. Optimal cut-off points were determined based on the Youden Index, and sensitivity, specificity, Positive Predictive Value (PPV), and Negative Predictive Value (NPV) were subsequently calculated. Concurrent validity was assessed through Spearman correlation between the two scores. The primary outcome was in-hospital mortality.*

Results: *Among the 200 subjects, the overall mortality rate was 63.0% (n=126). The median age of the study population was 60.0 years [IQR 49.0–68.0], with the geriatric age group (≥60 years) comprising the majority at 52.0%. Calibration was adequate for both models (Hosmer–Lemeshow: APACHE II p=0.253; OASIS p=0.743). APACHE II exhibited superior discriminative performance (AUC 0.816; 95% CI 0.755–0.876; classified as 'Good') compared with OASIS (AUC 0.790; 95% CI 0.726–0.854; classified as 'Acceptable'); however, this difference was not statistically significant (DeLong test p=0.417). At the optimal cut-off of >32, OASIS yielded a higher PPV (85.5%) than APACHE II at its optimal cut-off of >20 (PPV 80.7%), with OASIS demonstrating superior specificity (81.08% vs. 67.57%).*

Conclusion: *The OASIS score demonstrates equivalent validity to the APACHE II score in predicting mortality among adult ICU patients at RSUD Karsa Husada Batu.*

Keywords: *OASIS, APACHE II, ICU Mortality, Mortality Predictor, External Validation, Intensive Care*