INTISARI

PERBANDINGAN SISTEM SKORING *SARDJITO CARDIOVASCULAR INTENSIVE CARE (*SCIENCE) DENGAN *MAYO CARDIAC ADMISSION RISK SCORE* (M-CARS) UNTUK MEMPREDIKSI KEJADIAN MORTALITAS PASIEN *INTENSIVE CARDIAC CARE UNIT* (ICCU) RUMAH SAKIT SARDJITO

Adani, N.L., Bagaswoto, H.P., Arso, I.A.

Latar Belakang*:* *Intensive Cardiac Care Unit* (ICCU) telah berevolusi menjadi unit multidisiplin dengan kasus yang semakin kompleks dan mortalitas yang tinggi. Saat ini hanya ada satu sistem skoring prediktor mortalitas pasien ICCU yang dikenal luas yaitu *Mayo Cardiac Admission Risk Score* (M-CARS), namun memerlukan pemeriksaan laborat khusus, serta belum banyak di validasi di Indonesia. *Skor Sardjito Cardiovascular Intensive Care* (SCIENCE) memiliki kemampuan yang baik dalam memprediksi mortalitas pasien ICCU dengan komponen skor yang lebih sederhana.

Tujuan Penelitian: Membandingkan kemampuan prediksi sistem skoring SCIENCE dengan M-CARS.

Metode Penelitian: Penelitian ini merupakan studi observasional analitik dengan desain kohort retrospektif, dilakukan selama periode Februari 2022 – September 2024 pada pasien ICCU RS. Sardjito Yogyakarta.

Hasil: Terdapat 1503 subjek yang masuk kriteria inklusi dan eksklusi, namun lebih dari 50% subjek dieksklusi karena memiliki varibel M-CARS yang tidak lengkap (anion gap). Skor M-CARS memiliki kemampuan prediksi mortalitas ICCU berupa akurasi (70.9%), diskriminasi (AUC 0.804) dan kalibrasi (p=0.685), dan kemampuan prediksi mortalitas RS berupa akurasi (72.2%), diskriminasi (AUC 0.797) dan kalibrasi (p=0.303). Skor SCIENCE memiliki kemampuan prediksi mortalitas ICCU berupa akurasi (63.68%), diskriminasi (AUC 0.775) dan kalibrasi (p=0.059) serta kemampuan prediksi mortalitas RS berupa berupa akurasi (65.8%), diskriminasi (AUC 0.767) dan kalibrasi (p=0.352). Perbandingan diskriminasi M-CARS dan SCIENCE dengan uji delong didapatkan nilai p 0.005 (mortalitas ICCU) dan nilai p 0.002 (mortalitas RS). Selain M-CARS dan SCIENCE, stroke akut (hemoragik dan non hemoragik) dapat mempengaruhi mortalitas pasien ICCU dari uji multivariat (nilai p <0.05).

Kesimpulan: Kemampuan prediksi mortalitas M-CARS secara statistik lebih baik dibandingkan skor SCIENCE, namun secara klinis sulit diterapkan pada negara berkembang seperti Indonesia. Skor SCIENCE dapat menjadi alternatif skor M-CARS dengan parameter yang lebih sederhana.

Kata kunci: Skor M-CARS, Skor SCIENCE, Mortalitas Pasien ICCU

ABSTRACT

COMPARISON OF SARDJITO CARDIOVASCULAR INTENSIVE CARE (SCIENCE) SCORE WITH MAYO CARDIAC ADMISSION RISK SCORE (M-CARS) FOR PREDICTING MORTALITY OF INTENSIVE CARDIAC CARE UNIT (ICCU) SARDJITO HOSPITAL PATIENTS

Adani, N.L., Bagaswoto, H.P., Arso, I.A.

Background: Intensive Cardiac Care Unit (ICCU) has evoVKied into a multidisciplinary unit with increasing complex cases and high mortality. Currently, the Mayo Cardiac Admission Risk Score (M-CARS) is the only known ICCU predictor scoring system. But it requires special laboratory examinations and has not been widely validated in Indonesia. Sardjito Cardiovascular Intensive Care (SCIENCE) score has good ability in predicting ICCU patient mortality with simpler score components.
Objective: Comparing the predictive ability of the SCIENCE scoring system with M-CARS.
Method: This study is an analytical observational study with a retrospective cohort design. This study was conducted during the period February 2022 - September 2024 in ICCU patients at Sardjito Hospital Yogyakarta.
Result: There were 1503 subjects who met the inclusion and exclusion criteria, but more than 50% of subjects were excluded because they had incomplete M-CARS variable (anion gap). The M-CARS has good capability to predict ICCU mortality in term of accuracy (70.9%), discrimination (AUC 0.804) and calibration (p = 0.685), and also to predict hospital mortality in the term of accuracy (72.2%), discrimination (Area Under Curve (AUC) 0.797) and calibration (p = 0.303). The SCIENCE score also has good capability to predict ICCU mortality in term of accuracy (63.68%), discrimination (AUC 0.775) and calibration (p = 0.059) and to predict hospital mortality in term of accuracy (65.8%), discrimination (AUC 0.767) and calibration (p = 0.352). Comparison of M-CARS and SCIENCE AUC discrimination used Delong test obtained a p value of 0.005 (ICCU mortality) and p value 0.002 (hospital mortality). In addition to M-CARS and SCIENCE, acute stroke (hemorrhagic and non-hemorrhagic) can affect ICCU patient mortality from multivariate test (p value <0.05).
Conclusion: The mortality prediction ability of M-CARS is statistikally better than SCIENCE score, but clinically difficult to apply in developing countries like Indonesia. SCIENCE score can be an alternative to M-CARS score with simpler parameters.
Keywords: M-CARS Score, SCIENCE Score, ICCU Patient, Mortality