# Validasi rapid emergency medicine score dalam memprediksi mortalitas pasien gawat darurat non bedah = Validation of rapid emergency medicine score in predicting mortality of nonsurgical emergency patients

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Abstrak

Latar Belakang: Identifikasi risiko mortalitas pasien non bedah yang masuk ke ruang gawat darurat sangat penting dilakukan karena banyaknya pasien yang datang dengan berat penyakit bervariasi. Rapid Emergency Medicine Score (REMS) dikembangkan untuk memprediksi mortalitas pasien secara cepat sehingga dapat membantu dokter membuat keputusan klinis berdasarkan data yang objektif. Perbedaan karakteristik pasien di Indonesia dapat memengaruhi performa skor tersebut, sehingga perlu dilakukan validasi sebelum sistem skor tersebut digunakan.
Tujuan: Menilai performa kalibrasi dan diskriminasi REMS dalam memprediksi mortalitas pasien gawat darurat non bedah di Instalasi Gawat Darurat Rumah Sakit Cipto Mangunkusumo (IGD RSCM).
Metode: Penelitian ini merupakan studi kohort prospektif dengan subjek pasien non bedah yang masuk ke IGD RSCM pada bulan Oktober-Desember 2012. Usia, suhu tubuh, mean arterial pressure, denyut jantung, frekuensi pernapasan, saturasi oksigen perifer, dan Glasgow coma scale dinilai saat pasien masuk ke IGD untuk penilaian REMS. Luaran dinilai saat pasien keluar dari RSCM (hidup atau meninggal). Performa kalibrasi dinilai dengan plot kalibrasi dan uji Hosmer-Lemeshow. Performa diskriminasi dinilai dengan area under the curve (AUC).
Hasil: Sebanyak 815 pasien non bedah masuk ke IGD RSCM selama penelitian. Terdapat 741 (90,9%) pasien yang berhasil diikuti sampai terjadi luaran dengan angka mortalitas sebanyak 145 pasien (19,57%). Plot kalibrasi REMS menunjukkan koefisien korelasi r = 0,913 dan uji Hosmer-Lemeshow menunjukkan p = 0,665. Performa diskriminasi ditunjukkan dengan nilai AUC 0,77 (IK 95% 0,723; 0,817).
Simpulan: Rapid Emergency Medicine Score memiliki performa kalibrasi dan diskriminasi yang baik untuk memprediksi mortalitas pasien non bedah yang masuk ke IGD RSCM.
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Background: Identifying the mortality risk of nonsurgical emergency department (ED) patients is essential as a consequence of increasing number of attendence with diverse severity of disease. Rapid Emergency Medicine Score (REMS) was developed to predict patient?s mortality rapidly, therefore it can help doctors to make clinical decision based on objective data. Difference in characteristic of patients in Indonesia may influence the score?s performance, therefore validation of REMS is needed before applying this scoring system in Indonesia.
Objective: To evaluate calibration and discrimination of REMS in predicting mortality of nonsurgical ED patients in Cipto Mangunkusumo Hospital.
Methods: This is a prospective cohort study of nonsurgical patients who attended to ED of Cipto Mangunkusumo Hospital in October-December 2012. Age, body temperature, mean arterial pressure, heart rate, respiratory rate, peripheral oxygen saturation, and Glasgow coma scale were obtained when the patient was arrived at emergency room to perform the calculation of REMS. Outcome was assessed when patients

were discharge from the hospital (alive or dead). Calibration was evaluated with calibration plot and Hosmer-Lemeshow test. Discrimination was evaluated with area under the curve (AUC).
Results: A total of 815 nonsurgical patients attended to ED of Cipto Mangunkusmo Hospital during the study. As many as 741 (90.9%) patients were followed through the outcome. Mortality was observed in 145 patients (19.57%). Calibration plot of REMS showed r = 0.913 and Hosmer-Lemeshow test showed p = 0.665. Discrimination was shown by ROC curve with AUC 0.77 (95% CI 0.723; 0.817).
Conclusion: Rapid Emergency Medicine Score showed a good calibration and discrimination in predicting mortality of nonsurgical emergency department patients in Cipto Mangunkusumo Hospital.