

**Latar Belakang Penelitian.** Kualitas perawatan, tenaga kesehatan, dan metode untuk menilai resiko dari operasi bedah jantung mengalami perkembangan di era sekarang. Operasi bedah jantung merupakan operasi resiko tinggi dan membutuhkan perawatan ICU pasca operasi. Tujuan dari penelitian ini adalah untuk melakukan validasi EuroSCORE II sebagai prediktor lama perawatan ICU pada pasien pasca operasi bedah jantung (kelainan katup dan kongenital) di RSUP Dr. Sardjito.

**Metode Penelitian.** Desain penelitian adalah kohort retrospektif. Data diambil dari rekam medis pasca operasi bedah jantung pada tahun 2006-2016 di RSUP Dr. Sardjito. Nilai EuroSCORE II diperiksa pada semua subyek. EuroSCORE II digunakan untuk prediktor pemanjangan lama perawatan ICU >48 jam. Kemampuan diskriminasi dianalisa dengan kurva *Receiver Operating Characteristic* (ROC). Kalibrasi dinilai dengan *Area Under the Receiver Operating Characteristic Curve* (AUC) dan *Hosmer-Lemeshow test*.

**Hasil Penelitian.** Data diperoleh dari 92 pasien pasca operasi bedah jantung pada tahun 2006-2016 di RSUP Dr. Sardjito. Lalu didapatkan 15 pasien (16,3%) mengalami pemanjangan lama perawatan ICU >48 jam. Pada penelitian ini didapatkan nilai prediksi EuroSCORE II bersifat *underestimate* dibandingkan nilai aktualnya. EuroSCORE II menunjukkan diskriminasi yang baik sebagai prediktor lama perawatan ICU (AUC=0,711), namun memiliki kalibrasi yang lemah sebagai prediktor lama perawatan ICU (Hosmer-Lemeshow:  $p < 0,05$ ).

**Kesimpulan.** EuroSCORE II memiliki kemampuan diskriminasi baik namun kalibrasi yang lemah. EuroSCORE II dapat digunakan untuk membedakan kelompok perawatan ICU  $\leq 48$  jam dan  $> 48$  jam pada populasi, namun EuroSCORE II tidak dapat digunakan untuk stratifikasi pasien berdasarkan prosentase kemungkinan resiko pemanjangan lama rawat ICU.

**Kata Kunci :** EuroSCORE II, Operasi bedah jantung, Lama perawatan ICU

## ABSTRACT

**Background.** *Development quality of care, health care resources, and methods to assess the risk of cardiac surgery are increasing in this era. Cardiac surgery is high risk procedure and require post-operative intensive care. Our objectives were to validating EuroSCORE II as ICU length of stay predictor for post cardiac surgery patient (valvular and congenital heart disease) in Dr. Sardjito General Hospital.*

**Methods.** *A cohort retrospective study was conducted. Data were collected from the medical records of post-operative cardiac surgery patients in 2006-2016 at Dr. Sardjito General Hospital. EuroSCORE II values were obtained from all subjects. EuroSCORE II model was used to predict prolonged duration of ICU stay >48 hours. The predictive performance of EuroSCORE II was analyzed by the discriminatory power of a receiver operating characteristic (ROC) curve. Calibration were assessed with areas under the receiver operating characteristic curve (AUC) and the Hosmer–Lemeshow test.*

**Result.** *In this study the data were obtained from 92 patients post-cardiac surgery in 2006-2016 at Dr. Sardjito General Hospital. Fifteen patients (16.3%) have prolonged ICU stay >48 hours. In this research, the predictive value is underestimate than actual value. EuroSCORE II showed good discrimination ability to predict prolonged ICU stay (AUC=0.711). However, EuroSCORE II showed poor calibration in predicting prolonged ICU stay (Hosmer-Lemeshow:  $p < 0.05$ ).*

**Conclusion.** *EuroSCORE II showed good discrimination but poor calibration ability. EuroSCORE II can differentiate the outcome of ICU stay between  $\leq 48$  hours and  $> 48$  hours groups, but it cannot be use for patient risk stratification of prolonged ICU stay.*

**Keywords :** *EuroSCORE II, Cardiac surgery, ICU length of stay*