

## Validasi skor indeks risiko arozullah untuk memprediksi komplikasi paru pasien pasca operasi di RSCM = Validation of arozullah risk index score to predict pulmonary complication in post operative patients in Cipto Mangunkusumo General Hospital

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Abstrak

**ABSTRAK**

Latar Belakang : Komplikasi paru pasca operasi memiliki kontribusi penting dalam peningkatan angka morbiditas, mortalitas, dan lamanya perawatan. Terdapat beberapa faktor risiko diantaranya: status kesehatan pasien, jenis operasi, dan jenis anestesi yang digunakan. Model skor indeks risiko yang dikembangkan Arozullah dapat digunakan untuk memprediksi komplikasi gagal napas dan pneumonia pasca operasi. Oleh karena terdapat perbedaan karakteristik populasi pasien, maka perlu dilakukan validasi untuk mengetahui performa model skor tersebut. Tujuan : Menilai performa kalibrasi dan diskriminasi model skor indeks risiko komplikasi paru Arozullah dalam memprediksi komplikasi gagal napas dan pneumonia pasca operasi pada pasien yang menjalani operasi non kardiak di Rumah Sakit Umum Pusat Nasional Cipto Mangunkusumo (RSCM). Metode : Penelitian ini merupakan studi kohort retrospektif pada populasi pasien yang menjalani operasi nonkardiak di RSCM dari bulan Januari sampai Desember 2015. Variabel yang dinilai adalah jenis operasi, usia, operasi darurat, riwayat Penyakit Paru Obstruksi Kronis (PPOK), albumin darah, ureum darah, status fungsional, penurunan berat badan, perokok, penggunaan alkohol, transfusi darah pre operasi, anestesi umum, riwayat cerebrovascular disease, gangguan sensorium akut, penggunaan steroid kronis. Luaran yang dinilai adalah komplikasi gagal napas dan pneumonia 30 hari pasca operasi. Performa kalibrasi dinilai dengan uji Hosmer-Lemeshow. Performa diskriminasi dinilai dengan area under the curve (AUC). Hasil : Didapatkan 403 subyek memenuhi kriteria penerimaan dengan 74 subyek mengalami kejadian komplikasi paru (18,4%). Terdapat 52 subyek mengalami gagal napas dan 34 subyek komplikasi pneumonia, serta terdapat 12 subyek mengalami komplikasi keduanya. Uji Hosmer-Lemeshow pada komplikasi gagal napas menunjukkan  $p=0,333$ , sedangkan nilai AUC 0,911. Pada komplikasi pneumonia didapatkan hasil kalibrasi dengan nilai  $p=0,617$  dan nilai diskriminasi AUC 0,789. Simpulan : Model skor perioperatif paru Arozullah mempunyai performa yang baik dalam memprediksi komplikasi gagal napas dan pneumonia 30 hari pasca operasi pasien di RSCM Kata Kunci : Gagal napas, pneumonia, operasi non kardiak, validasi, indeks risiko Arozullah.

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**ABSTRACT**

Risk Index Score Perioperative Arozullah of Surgical Patients in Cipto Mangunkusumo General Hospital 2015 Background: Post operative pulmonary complication had important effect in increasing morbidity, mortality as well as length of stay. Several factor contributing those such as patient's health status, type of operation and type anaesthesia used. There were risk score develop by Arozullah that can be used to predict the possibility of respiratory failure and post operative pneumonia. Due to the differences of the characteristic population, the study needed internal validation to discover the performance of the Arozullah score. Objectives: To assess the performance of calibration and discrimination of Arozullah's model risk

score in predicting complications of respiratory failure and pneumonia postoperative in patients under going non-cardiac surgery in Cipto Mangunkusumo General Hospital (RSCM) Methods: A cohort retrospective study in patients undergoing non-cardiac surgery in RSCM from January to December 2015. Considered variable were type of surgery, age, emergency surgery, history of Chronic Obstructive Pulmonary Disease (COPD), serum albumin, ureum, functional status, weight loss, history of smoking, alcohol use, blood transfusions pre surgery, general anaesthesia, history of cerebrovascular disease, acute impaired sensorium, chronic steroid use. Outcomes assessed were complications of respiratory failure and pneumonia 30 days post-operative. Performance calibration were assess with Hosmer-Lemeshow test and performance discrimination were assess with area under the curve ( AUC ). Result: 403 subjects were meet the inclusion criteria with 74 of subjects had pulmonary complications (18.4 %), 52 subjects had respiratory failure, 34 subjects had pneumonia post operative, and 12 subjects had both complication. Hosmer-Lemeshow test on the complications of respiratory failure showed  $p = 0.333$  and the AUC value is 0.911. While pneumonia complications showed  $p = 0.617$  and AUC value is 0.789. Conclusion: Arozullah score perioperative had good performance in predicting respiratory failure and pneumonia 30-days post operative in RSCM. Key Word: respiratory failure, pneumonia, non cardiac surgery, validation, risk index score perioperative Arozullah;