

# Faktor-faktor yang Mempengaruhi Anesthesia-Controlled Time di Unit Pelayanan Bedah Terpadu: Penelitian terhadap faktor waktu induksi dan pemulihan anestesi berdasarkan pemilihan teknik anestesi = Factors Affecting Anesthesia-Controlled Time in Central Surgical Unit: A study on Anesthesia Induction and Recovery Time Based on Anesthesia Techniques

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## Abstrak

Latar Belakang: Penjadwalan operasi yang baik adalah yang mengoptimalkan workflow suatu kamar operasi, mengurangi kasus pembatalan operasi, dan ketidaktepatan prediksi waktu operasi. Unit Pelayanan Bedah Terpadu RSUPN Dr. Cipto Mangunkusumo memiliki peran besar terhadap berlangsungnya operational efficiency sehingga hal-hal terkait efisiensi kerja yang termasuk didalamnya penjadwalan pasien di kamar operasi menjadi fokus perhatian utama. Penelitian ini bertujuan untuk menilai korelasi waktu persiapan, induksi, dan pemulihan anestesi berdasarkan pemilihan teknik anestesi terhadap anesthesia-controlled time (ACT). Metode: Penelitian ini merupakan penelitian observasional yang dilaksanakan di Unit Pelayanan Bedah Terpadu RSUPN Dr. Cipto Mangunkusumo sejak Maret 2019 hingga Desember 2020, dengan total 1727 sampel yang memenuhi kriteria inklusi dan tidak memiliki kriteria eksklusi. Tim anestesi kamar operasi dengan menggunakan jam digital melakukan observasi, pengambilan, dan pencatatan data waktu secara manual kedalam lembar kuesioner yang disediakan di kamar operasi atau secara daring dengan mengakses tautan yang tersedia. Hasil: Terdapat hubungan linier positif yang bermakna antara waktu persiapan anestesi dengan ACT pada teknik anestesi umum-ETT ( $r=0.1$ ,  $p 0.009$ ), anestesi umum-ETT, CVC, ABP ( $r=0.253$ ,  $p 0.028$ ), dan anestesi umum-ETT/LMA, blok saraf perifer, CVC, ABP ( $r=0.489$ ,  $p 0.013$ ); waktu pemasangan monitor dengan ACT pada teknik anestesi umum-ETT ( $r=0.125$ ,  $p 0.001$ ), anestesi umum-ETT, CVC, ABP ( $r=0.502$ ,  $p 0.000$ ), anestesi umum-ETT/LMA, epidural ( $r=0.372$ ,  $p 0.001$ ), anestesi umum-ETT, epidural, CVC ( $r=0.436$ ,  $p 0.006$ ), sedasi ( $r=0.516$ ,  $p 0.001$ ), spinal ( $r=0.501$ ,  $p 0.000$ ), anestesi umum pediatrik-ETT/LMA, CVC, ABP ( $r=0.321$ ,  $p 0.000$ ), dan anestesi umum pediatrik-ETT/LMA, kaudal ( $r=0.445$ ,  $p 0.001$ ); waktu induksi anestesi dengan ACT pada teknik anestesi umum-ETT ( $r=0.513$ ,  $p 0.000$ ), anestesi umum-ETT, CVC, ABP ( $r=0.391$ ,  $p 0.001$ ), anestesi umum-LMA ( $r=0.312$ ,  $p 0.017$ ), anestesi umum-ETT/LMA, epidural ( $r=0.818$ ,  $p 0.000$ ), anestesi umum-ETT, epidural, CVC, ABP ( $r=0.559$ ,  $p 0.000$ ), spinal ( $r=0.503$ ,  $p 0.000$ ), kombinasi spinal-epidural ( $r=0.779$ ,  $p 0.000$ ), blok saraf perifer ( $r=0.729$ ,  $p 0.000$ ), anestesi umum pediatrik-ETT/LMA, CVC, ABP ( $r=0.511$ ,  $p 0.000$ ), dan anestesi umum pediatrik-ETT/LMA, kaudal ( $r=0.543$ ,  $p 0.000$ ); waktu insersi CVC dengan ACT pada teknik anestesi umum-ETT/LMA, CVC ( $r=0.553$ ,  $p 0.002$ ), anestesi umum-ETT, CVC, ABP ( $r=0.434$ ,  $p 0.000$ ), anestesi umum-ETT, epidural, CVC ( $r=0.415$ ,  $p 0.010$ ), dan anestesi umum-ETT, epidural CVC, ABP ( $r=0.288$ ,  $p 0.023$ ); waktu pemulihan anestesi dengan ACT pada teknik anestesi umum-ETT ( $r=0.157$ ,  $p 0.000$ ), anestesi umum-ETT/LMA, CVC ( $r=0.664$ ,  $p 0.000$ ), anestesi umum-ETT, CVC, ABP ( $r=0.374$ ,  $p 0.001$ ), anestesi umum-LMA ( $r=0.299$ ,  $p 0.023$ ), anestesi umum-ETT/LMA, epidural ( $r=0.557$ ,  $p 0.000$ ), anestesi umum-ETT, epidural, CVC ( $r=0.338$ ,  $p 0.035$ ), anestesi umum-ETT, epidural, CVC, ABP ( $r=0.343$ ,  $p 0.006$ ), sedasi ( $r=0.351$ ,  $p 0.033$ ), anestesi umum pediatrik-ETT/LMA, CVC, ABP ( $r=0.424$ ,  $p$

0.000), dan anestesi umum pediatrik-ETT/LMA, kaudal ( $r=0.589$ ,  $p 0.000$ ). Simpulan: Waktu persiapan, induksi, dan pemulihan anestesi tidak berkorelasi dengan anesthesia-controlled time berdasarkan pemilihan teknik anestesi di Unit Pelayanan Bedah Terpadu Rumah Sakit Dr Cipto Mangunkusumo.

.....ackground: An ideal operating schedule is the one that optimizes the workflow of an operating room, reduces case cancellation and inaccurate prediction of total procedural time. Central Surgical Unit of Dr. Cipto Mangunkusumo Hospital has a major role of ensuring the continuity of operational efficiency so that matters related to work efficiency, including patient scheduling in the operating room, are the main focus of attention. This study aims to assess the correlation of time of preparation, anesthesia induction and recovery time with anesthesia-controlled time (ACT) based on the choice of anesthesia technique. Methodes: This observational research was done in Central Surgical Unit of Dr. Cipto Mangunkusumo Hospital from March 2019 to December 2020, with a total of 1727 samples that fulfilled inclusion criteria, without exclusion criteria. By means of using a digital clock, anesthesia team performs observations, retrieval, and recording of time data manually into a questionnaire sheet provided in the operating room or an online document by accessing the link provided. Results: There is a significant positive linear correlation between anesthesia preparation time and ACT on general anesthesia-ETT ( $r=0.1$ ,  $p 0.009$ ), general anesthesia-ETT, CVC, ABP ( $r=0.253$ ,  $p 0.028$ ), and general anesthesia-ETT/LMA, peripheral nerve block, CVC, ABP technique ( $r=0.489$ ,  $p 0.013$ ); basic monitoring placement time and ACT on general anesthesia-ETT ( $r=0.125$ ,  $p 0.001$ ), general anesthesia-ETT, CVC, ABP ( $r=0.502$ ,  $p 0.000$ ), general anesthesia-ETT/LMA, epidural ( $r=0.372$ ,  $p 0.001$ ), general anesthesia-ETT, epidural, CVC ( $r=0.436$ ,  $p 0.006$ ), sedation ( $r=0.516$ ,  $p 0.001$ ), spinal ( $r=0.501$ ,  $p 0.000$ ), pediatric general anesthesia-ETT/LMA, CVC, ABP ( $r=0.321$ ,  $p 0.000$ ), and pediatric general anesthesia-ETT/LMA, caudal technique ( $r=0.445$ ,  $p 0.001$ ); anesthesia induction time and ACT on general anesthesia-ETT ( $r=0.513$ ,  $p 0.000$ ), general anesthesia-ETT, CVC, ABP ( $r=0.391$ ,  $p 0.001$ ), general anesthesia-LMA ( $r=0.312$ ,  $p 0.017$ ), general anesthesia-ETT/LMA, epidural ( $r=0.818$ ,  $p 0.000$ ), general anesthesia-ETT, epidural, CVC, ABP ( $r=0.559$ ,  $p 0.000$ ), spinal ( $r=0.503$ ,  $p 0.000$ ), combined spinal-epidural ( $r=0.779$ ,  $p 0.000$ ), peripheral nerve block ( $r=0.729$ ,  $p 0.000$ ), pediatric general anesthesia-ETT/LMA, CVC, ABP ( $r=0.511$ ,  $p 0.000$ ), and pediatric general anesthesia -ETT/LMA, caudal technique ( $r=0.543$ ,  $p 0.000$ ); CVC insertion time and ACT on general anesthesia-ETT/LMA, CVC ( $r=0.553$ ,  $p 0.002$ ), general anesthesia-ETT, CVC, ABP ( $r=0.434$ ,  $p 0.000$ ), general anesthesia-ETT, epidural, CVC ( $r=0.415$ ,  $p 0.010$ ), and general anesthesia-ETT, epidural CVC, ABP technique ( $r=0.288$ ,  $p 0.023$ ); anesthesia recovery time and ACT on general anesthesia-ETT ( $r=0.157$ ,  $p 0.000$ ), general anesthesia-ETT/LMA, CVC ( $r=0.664$ ,  $p 0.000$ ), general anesthesia-ETT, CVC, ABP ( $r=0.374$ ,  $p 0.001$ ), general anesthesia-LMA ( $r=0.299$ ,  $p 0.023$ ), general anesthesia-ETT/LMA, epidural ( $r=0.557$ ,  $p 0.000$ ), general anesthesia-ETT, epidural, CVC ( $r=0.338$ ,  $p 0.035$ ), general anesthesia-ETT, epidural, CVC, ABP ( $r= 0.343$ ,  $p 0.006$ ), sedation ( $r=0.351$ ,  $p 0.033$ ), pediatric general anesthesia-ETT/L anesthesia-ETT/LMA, caudal technique( $r=0.589$ ,  $p 0.000$ ). Conclusions: Time of anesthesia preparation, induction, and recovery do not correlate with ACT based on the anesthesia technique used to fascilitate surgery in Central Surgical Unit of Dr Cipto Mangunkusumo Hospital.