

# Pemberian nutrisi enteral dini dan pencapaian Resting Energy Expenditure pada Anak Sakit Kritis di Pediatric Intensive Care Unit dan Faktor-Faktor yang Memengaruhi = Early Enteral Nutrition and Resting Energy Expenditure Achievement for Critically Ill Children in Pediatric Intensive Care Hospital and the Influenced Factors.

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## Abstrak

Malnutrisi pada anak sakit kritis dalam perawatan intensif menjadi masalah dalam beberapa dekade terakhir dan berhubungan erat dengan morbiditas dan mortalitas. Hingga kini, Rumah Sakit Cipto Mangunkusumo (RSCM) belum memiliki panduan baku mengenai dukungan nutrisi anak sakit kritis. Penelitian bertujuan untuk mengetahui profil pemberian nutrisi enteral (NE) dan waktu pencapaian resting energy expenditure (REE) di Pediatric Intensive Care Unit (PICU) RSCM dan faktor-faktor yang memengaruhi. Penelitian dilakukan secara retrospektif dengan menggunakan data rekam medis anak sakit kritis yang dirawat di PICU RSCM pada tahun 2017-2018. Waktu inisiasi pemberian NE dan pencapaian REE serta faktor-faktor yang memengaruhi pemberian tersebut dicatat dan dilakukan analisis multivariat untuk mencari faktor risiko yang bermakna. Terdapat 203 pasien yang memenuhi kriteria inklusi. Terdapat 120 subyek berjenis kelamin laki (59,1%), dengan median usia adalah 35 bulan (rentang usia 1-209 bulan). Kasus bedah terdapat pada 125 subyek (61,6%) dan status gizi normal terdapat pada 87 subyek (42,9%). Prevalensi pemberian NE dini adalah 63,1%, dan pencapaian kalori REE 72 jam adalah 67,5%, dengan median 48 jam. Faktor risiko yang menghambat pemberian NE dini adalah pasca-bedah abdomen, penggunaan inotropik, penggunaan ventilator, gejala gastrointestinal sebelum inisiasi, dan status gizi tidak normal dengan odds ratio (OR) 10,89 (IK 95% 4,31-27,50; p=0,009), 4,60 (IK 95% 1,78-11,90; p=0,002), 4,18 (IK 95% 1,56-11,17; p=0,004), 3,40 (IK 95% 1,59-7,29; p=0,002), 2,49 (IK 95% 1,09-5,72; p=0,031). Faktor risiko yang menghambat pencapaian kalori REE 72 jam adalah pemberian NE lambat, intoleransi pemberian enteral berupa gejala gastrointestinal dan skor PELOD-2 7 dengan OR 20,62 (IK 95% 6,48-65,65; p=0,000), 14,77 (IK 95% 4,40-49,60; p=0,000), 3,98 (IK 95% 1,01-15,66; p=0,048). Prevalensi pemberian NE dini pada anak sakit kritis di PICU RSCM cukup baik dengan waktu pencapaian REE sesuai dengan target. Faktor terbanyak penghambat pemberian NE dini adalah kondisi pasca-bedah abdomen, sedangkan faktor penghambat pencapaian REE 72 jam terbanyak adalah pemberian NE lambat.

.....Malnutrition of critically ill children remains a major problem that is closely related to high morbidity and mortality in pediatric intensive care unit (PICU) during the last decades. The protocol of nutritional support for critically ill children in Cipto Mangunkusumo Hospital (CMH) has not yet been developed. The study is aimed to evaluate the enteral nutrition (EN) profile, the duration to achieve resting energy expenditure (REE) and number of influencing factors associated with the late EN administration and late REE achievement. The data were collected retrospectively from medical records during the year 2017 to 2018 in PICU CMH. We assessed the timing of EN given and the duration of REE achieved from EN. We performed multivariate analysis to determined significant factors associated with late EN and late REE achievement. Two hundred three subjects were included. One hundred twenty subjects (59%) were boys, with median age of 35 (1-209) months old. One hundred twenty five subjects (61.6%) were post-surgical

period and 87 subjects (42.9%) were in good nutritional status. The prevalence of early EN was 63.1%, and REE 72 hours was achieved in 67.5% subjects, with the median time was 48 hours. Significant factors inhibit early EN administration were post-abdominal surgery, ventilator use, inotropic use, gastrointestinal symptoms before initiation, and abnormal nutritional status; with OR 10.89 (95% CI 4.31 to 27.50; p=0.009), 4.60 (95% CI 1.78 to 11.90; p=0.002), 4.18 (95% CI 1.56 to 11.17; p=0.004), 3.40 (95% CI 1.59 to 7.29; p=0.002), 2.49, 95% CI 1.09 to 5.72; p=0.031), respectively. While factors inhibit the achievement of REE 72 hours were the late EN initiation, enteral intolerance, and PELOD-2 score 7 with OR 20.62 (95% CI 6.48 to 65.65; p=0.000), 14.77 (95% CI 4.40 to 49.60; p=0.000), 3.98 (95% CI 1.01 to 15.66; p=0.048), respectively. The prevalence of early EN administration with the duration to achieve REE among critically ill children in the PICU CMH was quite satisfying. The most influencing factor inhibit early EN administration was post-abdominal surgery, while the most significant factor inhibit the achievement of REE 72 hours was the late NE administration.