

Energy and Protein Delivery in Overweight and Obese Children in the Pediatric Intensive Care Unit

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Resumen

Background: Early and optimal energy and protein delivery have been associated with improved clinical outcomes in the pediatric intensive care unit (PICU). Overweight and obese children in the PICU may be at risk for suboptimal macronutrient delivery; we aimed to describe macronutrient delivery in this cohort. Methods: We performed a retrospective study of PICU patients ages 2-21 years, with body mass index (BMI) 85th percentile and >48 hours stay. Nutrition variables were extracted regarding nutrition screening and assessment, energy and protein prescription, and delivery. Results: Data from 83 patient encounters for 52 eligible patients (52% male; median age 9.6 [5-15] years) were included. The study cohort had a longer median PICU length of stay (8 vs 5 days, $P < .0001$) and increased mortality rate (6/83 vs 182/5572, $P = .045$) than concurrent PICU patient encounters. Detailed nutrition assessment was documented for 60% (50/83) of patient encounters. Energy expenditure was estimated primarily by predictive equations. Stress factor >1.0 was applied in 44% (22/50). Median energy delivered as a percentage of estimated requirements by the Schofield equation was 34.6% on day 3. Median protein delivered as a percentage of recommended intake was 22.1% on day 3. Conclusions: The study cohort had suboptimal nutrition assessments and macronutrient delivery during their PICU course. Mortality and duration of PICU stay were greater when compared with the general PICU population. Nutrition assessment, indirect calorimetry-guided energy prescriptions, and optimizing the delivery of energy and protein must be emphasized in this cohort. The impact of these practices on clinical outcomes must be investigated.

Palabras clave

Palabras clave de autor: [obesity](#); [critical care](#); [pediatrics](#); [nutrition](#); [energy](#); [protein](#); [intensive care unit](#); [nutrition assessment](#); [energy expenditure](#); [mortality](#)

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Editorial

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