Overcoming Barriers to Enteral Nutrition Adequacy in the Critical Care Setting

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Abstract

Adequate nutrition is vital to the recovery of critically ill patients, but a host of challenges unique to the critical care setting limits the delivery of adequate calories. Prior to initiating a performance improvement project, targeting nutrition delivery to patients on the ICU, an interdisciplinary team was convened to identify barriers to adequate nutrition delivery to patients on the ICU. An ICU-specific enteral nutrition protocol was created, which specifically outlined the role of physicians, nursing staff, and dietitians. The protocol incorporated the more aggressive enteral nutrition ramp-up rate permitted in the 2016 A.S.P.E.N. critical care guidelines. Targeted education by the RD appeared to improve adherence to protocol.

Methods

- An interdisciplinary team was convened to identify barriers to adequate feeding (Fig. 1) and begin a PI project using A3 methodology.
- A group of process and outcome measures were selected based on relative ease of implementation and greatest potential impact. Overall, four process (fig. 3) and two outcome measures (fig. 2) were tracked.
- Tracking was completed by ICU RD and/or CNM and results reported to the team monthly.
- The team agreed that the ICU would benefit from a feeding protocol that met the following criteria: uncomplicated, easily auditible, in line with current ACCM-ASPEN guidelines, easy to order in the EHR, and focused on meeting calorie goals.
- Staff education was provided around the feeding protocol, and staff were subsequently surveyed to identify additional barriers to feeding adequacy.

Background

- The genesis of this project was a surplus of unused enteral formula on the ICU, triggering an audit of feeding use.
- Awareness of inadequate nutrition delivery to patients prompted an interdisciplinary plan of action to identify root causes.
- Nutritional adequacy in ICU patients is known to improve outcomes in disease severity, length of stay, and mortality; however, recent studies showed that ICU patients received only 60% of estimated nutrition needs.
- The ACCM-ASPEN recommendations are valuable but were not reliably employed in our hospital.
- Standardized care increases the likelihood that a care plan will be followed.

Objective

- To initiate enteral nutrition within 24 hours of admission to the ICU.
- To increase the percentage of patients on the ICU who receive at least 75% of estimated enteral nutrition needs.
- To improve the coordination of the interdisciplinary team and bridge knowledge gaps.
- To create an ICU specific protocol outlining responsibilities for interdisciplinary team members.
- To elevate the role of nutrition and dietetics on the ICU.

Results

- After 14 months, 100% of patients audited were receiving at least 75% of their estimated nutrition needs.
- Noticeable improvement in the collaboration of providers, dietitians, and nurses.
- There was an association between the ICU RD’s presence and patients receiving intended calories.

Conclusions

- It is possible to dramatically increase the percentage of patients receiving at least 75% of intended calories.
- A feeding protocol that includes standardization of formula, simplified ordering, fewer gastric residual checks, and structured rate advancement, along with focused RD effort on protocol adherence and education, appears effective.
- Loss of the RD resulted in immediate and dramatic reduction in number of patients receiving at least 75% of calories desired; conversely, regular presence of an RD was associated with increase in number of patients receiving at least 75% of calories.
- Targeted education by the RD appeared to improve adherence to protocol.