

The Role of Dietitian in Improving Energy and Protein Intake in TBI Patients Admitted to the Neurosurgical ICU

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Abstract

Background and Aim: Early and sufficient nutritional support is vital to improve outcomes in patients with traumatic brain injury. This study aims to determine the effects of dietitian involvement in the nutritional and clinical outcomes in patients with traumatic brain injuries admitted to the neurosurgical ICU.

Methods and Materials/Patients: Forty-eight male patients with traumatic brain injuries admitted to Poursina Hospital neurosurgical ICU were studied, retrospectively. Patients were divided to either receive dietitian intervention or without any nutritional recommendation (control). Demographic information, Glasgow Coma Scale and Acute Physiology and Chronic Health Evaluation II (APACHE II) scores, the timing of initial enteral feeding, the amount of energy and protein intake on day 4, the duration of mechanical ventilation and ICU length of stay were recorded.

Results: Patients under the dietitian recommendation had significantly lower timing of initial enteral nutrition compared to the other cases ($P=0.02$). The average energy or protein intake and the percentage of target energy or protein intake on day 4 appeared to be significantly lower in the subjects in the control group than in those with nutritional intervention ($P\leq 0.001$). There was no statistically significant difference in the duration of mechanical ventilation and ICU length of stay between different groups of patients.

Conclusion: Instead of occasional consultations for exclusive cases, the daily attendance of dietitians during multidisciplinary rounds of ICU is required to assess the nutritional needs of patients.

Keywords: Dietitians, Enteral tube feeding, Intensive care unit, Nutritional and Clinical assessments, Traumatic brain injury

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Highlight

- Dietitian intervention increased the average energy and protein intake and reduced the timing of initial enteral nutrition in patients with traumatic brain injury.
- Patients with traumatic brain injury received a higher percentage of target energy or protein intake on day 4 compared to those without dietitian intervention.

Plain Language Summary

Early and enough feeding is important for patients with traumatic brain injury to have a better outcome. Dietitian plays a role to tailor the feeding with the patient's requirement and level of tolerance. However, using dietitian recommendation is not routine in many hospitals for patients receiving tube feeding. In this study, we determined whether using dietitian recommendations can benefit the nutritional and clinical outcomes in patients with traumatic brain injury in the intensive care unit (ICU). We found that dietitian presence in ICU increased the average of energy and protein intake and reduced the timing of feeding in patients compared to those who did not receive dietitian interventions. Patients in the dietitian