Evaluation of Initial Nutrition Risk Factors for Patients Receiving Enteral Support in the Homecare Setting

Elaine Arthur, RD, LD, LDN | Sarah Allen, MS, RD, LD, LDN

CORAM
CVS/specialty infusion services

Introduction

An effective initial homecare nutrition screening and assessment process can help identify and stratify enteral patients who are at high nutritional risk. This identification aids in ensuring appropriate nutrition monitoring and intervention by the homecare Registered Dietitian (RD). Once risk is established, the RD can perform a nutrition assessment and develop an individualized nutrition care plan for the patient to optimize therapy tolerance and clinical outcomes. For this study, a review of patient medical records was conducted to identify the most common factors related to nutritional risk in enteral homecare patients that may lead to therapy intolerance or poor clinical outcomes.

Methods

A retrospective review was used to evaluate the nutrition risk factors found during the RD initial screen for enteral patients performed by a large home infusion company. The company's clinical care program includes an initial RD nutrition screen within three business days of the start of therapy. Patients are then categorized by nutritional risk for further RD intervention and follow-up.

Data was collected from adult patients of the home infusion company who were in the Northeast and Southeast regions of the country and were initiated on enteral therapy between November 1, 2013 and May 31, 2014. The percentage of patients who fell into pre-determined high nutritional risk categories was calculated (see Table 1). When a patient was determined to be at high nutritional risk, an RD assessment was conducted, with development of a nutrition care plan and timed follow-up. As part of the retrospective review, additional data was captured via an online survey of the RDs to quantify the number of RD interventions that occurred for each patient. The questions answered in the survey are noted in Table 2.

Table 1. High-Risk Criteria for Adults

- BMI <19 on admission
- Significant weight loss prior to admission
- Malnutrition diagnosis (as defined by current ICD-9)
- Documented therapy intolerance
- Documented therapy noncompliance
- Advanced age >85 years
- Decubitus ulcers
- Prescribed therapy insufficient to meet patient needs
- Written referral or verbal request for RD follow-up
- RD discretion*

*Frequent RD discretion reasons included diagnoses consistent with malnutrition or therapy intolerance, such as: gastric cancer, Crohn's disease/colitis, hyperemesis, and pancreatitis, or former parenteral nutrition use.

References
1. Mueller C, Compher C, Druyan M; American Society for Parenteral and Enteral Nutrition Board of Directors. A.S.P.E.N. clinical guidelines: nutrition screening, assessment, and intervention in adults. *JPEN J Parenter Enteral Nutr.* January 2011;35(1):16-24.
2. Durfee S, Adams S, Arthur E, et al; Home and Alternate Site Care Standards Task Force (A.S.P.E.N.). A.S.P.E.N. standards for nutrition support: home and alternate site care. *Nutr Clin Pract.* August 2014;29(4): 542-555.

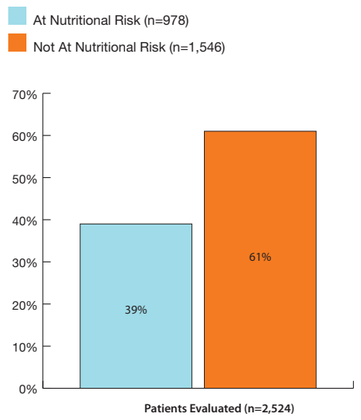
Table 2. RD Survey Questions

1. If you deemed the patient to be at risk, did the patient require additional nutrition intervention — yes or no?
2. If yes — How much additional follow-up did the patient require?
   - One to three calls
   - Three to five calls
   - Intervention by MD/RN
   - Rehospitalization
3. Comments

Results

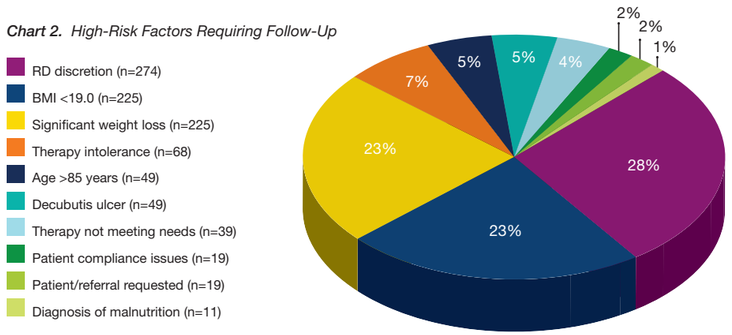
- In total, 2,524 adult patients were evaluated.
- Of those patients, 978 were found to be at nutritional risk (39%); 1,546 were determined not to be at nutritional risk (61%). See Chart 1.
- Of the patients determined to be at risk, all received review of the safety and appropriateness of their prescribed therapy by an RD. In many cases, the RD provided significant additional nutrition intervention.
- Additional nutrition intervention was most associated with:
  - Patients who experienced therapy intolerance (92% required intervention)
  - Patients who had a BMI of less than 19 (75% required intervention)
  - Patients whose prescribed therapy did not meet their needs (75% required intervention)
  - Patients who had decubitus ulcers (67% required intervention)
  - Patients who had interventions based on RD discretion (58% required intervention)
  - Patients who had interventions due to therapy noncompliance (50% required intervention)

Chart 1. Percentage of Patients At Nutritional Risk



- For patients who had specific RD interventions:
  - 50% required one to three additional RD follow-up calls before becoming stable.
  - 59% required three to five additional RD follow-up calls before becoming stable.
  - There was no reported MD/RN intervention.
- Incidental hospital readmission was reported for the following high-risk patient groups. The specific reason for readmission was not defined.
  - Therapy intolerance (17% were readmitted)
  - RD discretion (10% were readmitted)
  - BMI less than 19 (9% were readmitted)
- As illustrated in Chart 2, within the high-risk category (978 patients):
  - 28% were deemed high-risk at discretion of the homecare RD* (n=274)
  - 23% had a BMI of less than 19 (n=225)
  - 23% experienced significant weight loss (n=225)
  - 1% had a diagnosis of malnutrition as defined by current ICD-9 (n=11)
  - 7% had medical record-documented therapy intolerance (n=68)
  - 5% had an advanced age of greater than 85 years (n=49)
  - 5% had a medical record-documented decubitus ulcer (n=49)
  - 4% had prescribed therapy that did not meet their nutritional needs (n=39)
  - 2% had a referral that specified follow-up by the homecare RD (n=19)
  - 2% had medical record-documented patient therapy compliance issues (n=19)

Chart 2. High-Risk Factors Requiring Follow-Up



The follow-up RD survey demonstrated a shorter time span of RD follow-up reported for the risk categories of either malnutrition or age over 85 years, as compared to the other risk categories. This shorter time span was attributed to patient improvement or stabilization on therapy. Additional nutrition intervention was most associated with BMI less than 19, significant weight loss, therapy intolerance, age over 85 years, decubitus ulcer, prescribed therapy not meeting patient needs, and patient noncompliance, as well as RD discretion. The additional interventions included modification of nutrition therapy ordered to better meet patients' needs, and closer monitoring of therapy to improve compliance.

Conclusions

The objective study categories that were most commonly associated with a patient being at nutritional risk were a low BMI on admission, and significant weight loss prior to admission. In addition, approximately one-third of patients were deemed at high nutritional risk using parameters outside of the objective data, and were monitored by the RD based on clinical judgment. Further evaluation is warranted to validate the nutrition screening and assessment process used, and to modify the currently defined risk categories according to standards of the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.). This additional study will help ensure a more consistent level of clinical therapy management across all RD providers within the homecare company.[1,2]