Demographics of Malnourished Patients

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**Research Objective/Hypothesis:** Determine the demographics of patients diagnosed with malnutrition using the Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition (Academy/ASPEN): Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition), and compare to the hospitals general population.

**Relevance:** Understanding the demographics of malnourished patients allows the registered dietitian nutritionist (RDN), other healthcare practitioners, and hospital leadership to be more aware of those at risk, and plan workflows, policies and interventions accordingly.

**Background:** Malnutrition Quality Improvement Initiative (MQii) efforts are focused on the older adult. Studies have demonstrated that malnourished patients have a higher average length of stay (LOS), however many of these studies were conducted before the publication of the Academy/ASPEN malnutrition clinical characteristics. Reassessment of the demographics of patients diagnosed with malnutrition using the new criteria is needed.

**Methods:** In CY 2018, the RDNs at a community hospital with an average census of 180 recorded all patients they diagnosed with malnutrition using the Academy/ASPEN malnutrition clinical characteristics. These records were reviewed and the following demographic information was obtained: age, sex, BMI and LOS.

**Results / Outcomes:** The RDNs diagnosed 961 patients with malnutrition present on admission, or 8.04% of all patients admitted in that time period (n=11,950). The average age of the malnourished patients was 69.1 years, while the total hospital population average age was 66.2 years. Sex distribution was essentially the same, with 48.9% and 48.3% male and 51.1% and 51.7% female for malnourished and the total population respectively.

BMI distribution was as follows:

- BMI n %
- <19 991 40.7%
- 19.1-25 386 40.2%
- 25.1-30 126 13.1%
- 30.1-35 36 3.7%
- 35.1-40 12 1.2%
- >40 10 1.0%

The LOS for all units (including rehab) was 6.91 and 4.96 days, and for acute care units (excluding rehab) was 6.21 and 4.25 days, for malnourished patients and the total population respectively.

**Conclusions:** Similar to other studies, this data indicates that hospitalized older adults are more likely to have malnutrition, and average LOS is substantially greater in the malnourished population. As expected, a large percentage of patients had a low or normal BMI; however 184 patients (19.1%) were classified as overweight or obese.

**Implications for Policy or Practice:** These results highlight the risk of malnutrition for older adults, emphasizing the need to target this population with regards to prevention, identification and treatment of malnutrition.

Results from the BMI analysis serve as a reminder that not all malnourished patients are underweight, and that overweight and obese individuals may also be at risk. However, diagnosis of malnutrition in this BMI group may be more challenging as excess weight may mask muscle or fat wasting.

LOS results also emphasize, especially to healthcare administrators and policy makers, the need to address malnutrition as a means to reduce healthcare costs, and thus can serve as a tool to convince key stakeholders to implement the MQii.

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Evaluation of a Nutrition Screening Tool to Identify Patients at Risk for Malnutrition

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**Research Objective/Hypothesis:** Determine if a nutrition screening tool (NST) successfully identified at-risk patients.

**Relevance:** The proposed malnutrition electronic clinical quality measure (eCQM) for screening is Completion of a Malnutrition Screening within 24 hours of Admission. It is necessary to evaluate NSTs to ensure accurate identification of at-risk patients.

**Background:** In a community hospital with an average census of 180 patients, registered nurses (RNs) complete an NST in the electronic health record on admission to determine the presence and significance of weight loss using the following questions:

- Have you had recent weight loss? Y/N
- If Yes, was it intentional? Y/N
- Weight loss amount (lb)?
- Time frame? 1 week, 1 month, 3 months, 6 months, 1 year
- Usual weight (lb)?
- If loss is significant according to the following scale, the RDN is automatically consulted.
  - 2% in 1 week
  - 5% in 1 mo
  - 7.5% in 3 mo
  - 10% in 6 mo
  - 20% in 1 yr

**Methods:** In CY 2018, for patients diagnosed with malnutrition by a registered dietitian nutritionist (RDN), the RDN recorded the method by which the nutrition consult was triggered, and reasons why the NST did not trigger a consult.

**Results / Outcomes:** Of the 961 patients diagnosed with malnutrition upon initial assessment, the NST triggered a consult in only 393 (40.8%). Other triggers included:

- BMI < 19 247 (25.7%)
- MD/RN referral 167 (17.4%)
- Length of stay screening 48 (5.0%)
- NPO/clear liquid status 32 (3.3%)
- Patient care rounds 28 (2.9%)
- Braden score < 18 17 (1.8%)
- Ventilator protocol 16 (1.7%)
- Consult entered in error 13 (1.4%)

Malnourished patients were not identified by the NST for the following reasons:

- Unknown (presumably the RN did not ask the weight loss question, or the patient indicated they hadn't lost weight when they had) 250 (44.0%)
- Patient did not have weight loss 182 (32.0%)
- Unable to obtain information 81 (14.3%)
- Weight loss not significant 31 (5.5%)
- NST completed incorrectly or not at all 24 (4.2%)

**Conclusions:** The NST did not identify a majority (59.1%) of malnourished patients. Of those not identified, 37.5% did not have significant weight loss. Further, the most common trigger after weight loss was low BMI. This suggests that an NST with only questions about weight loss will be insufficient in identifying patients at risk for malnutrition, especially those with chronic malnutrition, i.e. no recent loss but significant muscle/fat wasting and/or low BMI.

**Implications for Policy or Practice:** Although use of validated NSTs is recommended, all NSTs for adults were developed before the release of the Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition). These NSTs do not account for muscle/fat wasting, however the inclusion of these criteria in an NST is likely unfeasible. Although BMI is not recommended for use in the US as a malnutrition criterion, it may be a viable substitute for muscle/fat wasting as an NST trigger.

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