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Invited Commentary

Agreement on Defining Malnutrition

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Nutrition support clinicians have struggled to clearly and consistently diagnose and document the undernutrition form of malnutrition, using nonspecific biomarkers, disease severity, and existing classification systems. Within the past few years, the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) supported efforts to standardize malnutrition definitions in the United States and internationally. In this issue of the *Journal of Parenteral and Enteral Nutrition* (*JPEN*), White et al[1] provide more results of these efforts in the "Consensus Statement From the Academy of Nutrition and Dietetics/ American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition)." This document is based on the work of a cadre of international clinicians and researchers who defined malnutrition.[2] It is also based on collaboration between the Academy of Nutrition and Dietetics and A.S.P.E.N. to develop clinical characteristics that accompany the definitions. It provides clinicians with definitions and clinical characteristics of malnutrition that can be used to quickly and consistently document malnutrition. The consensus statement provides researchers with a uniform set of criteria that can serve as the basis for epidemiologic and intervention studies. Clinicians, administrators, and coders can use the malnutrition definitions and clinical characteristics for record-keeping and billing purposes. Eventually, clinicians and administrators can aggregate data to calculate the incidence and/or prevalence and allocate resources to the problem.

Defining Malnutrition

In point of fact, malnutrition is a simple concept. Malnutrition begins when food and nutrient intake is consistently inadequate to meet individual nutrient requirements. Over time, inadequate food and nutrient intake results in changes in weight, body composition, and physical function. This type of malnutrition results when food is not available due to environmental or social circumstances. It usually develops slowly and may be the result of abuse, neglect, famine, poverty, limited understanding of an adequate diet, or disordered eating. Malnutrition due to social and environmental circumstances slowly resolves once adequate food and nutrient intake resumes.

It is the relationship between malnutrition and medical diagnoses that presents a conceptual and clinical challenge. At some point along the continuum that begins with inadequate food and nutrient intake and ends in death from starvation, increased susceptibility to disease appears. Some clinicians advocate that malnutrition causes disease. This is likely true in situations where chronic inadequate food and nutrient intake increases the susceptibility to infection. Other clinicians advocate that disease results in malnutrition. This is likely true if the disease impedes appetite, nutrient intake, or nutrient assimilation. It is also possible that disease and malnutrition develop simultaneously, especially in acutely injured patients whose inflammation from infection accelerates the onset of malnutrition.

The authors and workgroups who developed the consensus statement use inflammation as a surrogate marker of malnutrition rather than the laundry list of medical diagnoses found on many nutrition assessment forms. Inflammation, rather than medical diagnosis, is the root cause preventing malnutrition from resolving, even for patients who consume adequate foods and/or nutrients. Wisely, they do not attempt to define inflammation by severity but by duration. The 90-day timeframe dividing acute from chronic inflammation is the same used by policy makers to define acute and chronic disease.

The workgroups have replaced nonspecific laboratory data, including serum proteins, with clinical characteristics. The 6 clinical characteristics of malnutrition are (1) insufficient food and nutrition intake compared with nutrition requirements, (2) weight loss over time, (3) loss of muscle mass, (4) loss of fat mass, (5) fluid accumulation, and (6) measurably diminished grip strength. For each characteristic, the consensus statement provides specific criteria to aid clinicians in distinguishing between severe and nonsevere malnutrition. Clinicians can easily obtain the first 2 clinical characteristics from an alert patient, a family member, or caregiver. Weight change over time is easily interpreted once the history is

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available. The intake history is slightly more challenging as it must be interpreted in light of individualized nutrient requirements. In healthcare facilities of all types, the amount of food consumed is typically recorded as a percentage of food served. The amount of food served is often inconsistent with the individualized requirements of overweight or underweight patients and in institutions where patients may over- or underselect from a menu.

Many clinicians treat patients who are unable to provide a reliable history. For these patients, clinicians can use physical exam data to diagnose malnutrition. Clinicians experienced with nutrition physical exam recommend an examination of the arms, shoulders, trunk, and legs to provide a more complete and sometimes quite different picture of malnutrition than provided by a limited exam of the face and head. Grip strength measurements may be useful in situations where functional assessment is needed. Documenting data for all 6 clinical characteristics suggests that the assessment was complete. However, a minimum of 2 characteristics are recommended to diagnose malnutrition.

Implementing the Definitions and Clinical Characteristics of Malnutrition

Clinicians in facilities that implement these definitions and clinical characteristics of malnutrition may find that significant changes are needed. Reviewing the consensus statement in meetings consisting of clinicians from different disciplines and coders may be helpful. The definitions and clinical characteristics of malnutrition will be a major change in facilities using lists of medical diagnoses, comparison of actual and ideal weight, and laboratory data to diagnose malnutrition. In some institutions, clinicians may find it challenging to obtain data from the patient rather than the medical record. Because laboratory data are no longer needed to diagnose malnutrition, some institutions may realize a cost savings when these definitions and clinical characteristics go into effect. Realistic projections for changes in costs and revenue may assist in reallocating resources to staffing and staff training.

Clinicians that implement the malnutrition definitions and clinical characteristics should resist the temptation to modify the clinical characteristics and are encouraged to implement them as published. They are intended for adults of all ages because there are no data suggesting malnutrition should be defined differently for adults of advanced age. As mentioned previously, the metabolic cost of disease is addressed in the malnutrition etiologies. Overweight and obese patients may be diagnosed with malnutrition using these definitions. Clinicians adjust for changes in organ function when estimating nutrient requirements and comparing them with intake.

Consistently documenting malnutrition will enable clinicians to establish the prevalence of malnutrition in their practice or institution. Currently, many clinicians believe that more than 30% of their patients have malnutrition, whereas the National Center for Health and Vital Statistics[3] reports a much lower number. Establishing the prevalence of malnutrition may serve to focus attention on the problem of malnutrition, especially if it is accurately reported to databases consulted by policy makers.

Conclusion

The consensus statement in this issue is the result of unprecedented intersociety and international collaboration. The Academy of Nutrition and Dietetics and A.S.P.E.N. provide clinicians with definitions and clinical characteristics for adult malnutrition that should be implemented into clinical practice at all levels and locations. The Academy and A.S.P.E.N. continue efforts to incorporate the definitions and clinical characteristics into policies and regulations.

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