Clinical Nutrition xxx (2016) 1–4

Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

Editorial

To create a consensus on malnutrition diagnostic criteria: A report from the Global Leadership Initiative on Malnutrition (GLIM) meeting at the ESPEN Congress 2016

Keywords:
Malnutrition
Undernutrition
Diagnosis
Consensus

S U M M A R Y

During the ESPEN Congress in Copenhagen, Denmark (September 2016) representatives of the 4 largest global PEN-societies from Europe (ESPEN), USA (ASPEN), Asia (PENSA) and Latin America (FELANPE), and from national PEN-societies around the world met to continue the conversation on how to diagnose malnutrition that started during the Clinical Nutrition Week, Austin, USA (February 2016).

Current thinking on diagnostic approaches was shared; ESPEN suggested a grading approach that could encompass various types of signs, symptoms and etiologies to support diagnosis. ASPEN emphasized where the parties agree; i.e. that the three major published approaches (ESPEN, ASPEN/AND and Subjective Global Assessment (SGA)) all propose weight loss as a key indicator for malnutrition. FELANPE suggested that the anticipated consensus approach needs to prioritize a diagnostic methodology that is available for everybody since resources differ globally. PENSA highlighted that BMI varies by ethnicity/race, and that sarcopenia/muscle mass evaluation is important for the diagnosis of malnutrition.

A Core Working Committee of the Global Leadership Initiative on Malnutrition (GLIM) has been established (comprised of two representatives each from the 4 largest PEN-societies) that will lead consensus development in collaboration with a larger Working Group with broad global representation, using e-mail, telephone conferences, and face-to-face meetings during the up-coming ASPEN and ESPEN Congresses. Transparency and external input will be sought. Objectives include: 1. Consensus development around evidence-based criteria for broad application. 2. Promotion of global dissemination of the consensus criteria. 3. Seeking adoption by the World Health Organization (WHO) and the International Classification of Diseases (ICD).

1. Introduction

The global nutrition community seeks unity around diagnostic criteria for malnutrition (meaning under-nutrition) that will identify the core attributes of malnutrition, take ethnic/racial differences into account, and promotes an approach that considers the presence of malnutrition among obese persons in light of the growing prevalence of obesity throughout the world.

Recently a global consensus has evolved around the need to screen for malnutrition in patients and residents of hospitals and other health care points of care. Several screening tools [1,2] use evidence-based variables (e.g. weight loss, body mass index, food intake, disease severity) and have been validated against clinical practice. Screening needs to be sensitive to catch all at risk for malnutrition, whereas the ensuing diagnostic assessment decides whether the "at risk status" fulfills more specific criteria for the diagnosis of malnutrition.

2. Previous efforts to decide diagnostic criteria of malnutrition

In 2012 a working group of the American Society of Parenteral and Enteral Nutrition (ASPEN) and the Academy of Nutrition and Dietetics (AND) proposed a set of six basic diagnostic criteria for malnutrition; i.e. low energy intake, weight loss, loss of muscle mass, loss of subcutaneous fat, fluid accumulation, and diminished hand grip strength, whereof at least two should be fulfilled for the diagnosis of malnutrition [3]. The proposed approach includes moderate and severe malnutrition grading as well as an illness or injury component that considers the inflammatory challenge to the patient [3].

In 2015 ESPEN developed a Consensus Statement that a malnutrition diagnosis could be confirmed in those identified as "at risk" by screening, through the application of any of two alternative sets of criteria; i.e. either reduced body mass index (BMI) < 18.5 kg/m^2,

http://dx.doi.org/10.1016/j.clnu.2016.12.001

or combined weight loss and reduced BMI (age-dependent cut-offs) or reduced sex-dependent fat free mass index (FFMI) [4].

A third option, the Subjective Global assessment (SGA), has been adopted by the Canadian Nutrition Society for diagnostic purposes. SGA includes evaluation of food intake, weight loss, functional deficits, metabolic stress, and physical assessment of muscle or fat mass [5].

3. Global Leadership Conversation Austin, USA February 2016

There has been a growing call for nutrition experts to come together to develop a broad global consensus regarding approaches to malnutrition diagnosis. In February 2016 during the Clinical Nutrition Week in Austin, USA the first Global Leadership Conversation was held that gathered national PEN-societies from all over the world to begin to address this issue. This initial meeting was summarized by Jensen [6] who stated that "reaching broad consensus for defining and characterizing malnutrition would be a tremendous achievement". The discussions at that meeting revealed that the stakeholders are actually not far apart in approaches to malnutrition diagnosis and that it should be possible to agree on a common set of diagnostic criteria. It was decided that the four largest global PEN-societies; i.e. ESPEN, ASPEN, PENSA and FELANPE will take the lead in this effort. After the meeting in Austin a small Core Working Committee (CWC) comprised of two representatives from each of these societies was formed. The CWC had several telephone conferences and extended e-mail communications during spring and summer 2016 to organize plans for a comprehensive effort targeting consensus building; the Global Leadership Initiative on Malnutrition (GLIM). A larger supporting Working Group (WG) is being constituted with broad global representation and expertise that will collaborate in these efforts.

4. Global Leadership Initiative on Malnutrition (GLIM) Copenhagen, Denmark September 2016

A second face-to-face meeting was held during the 2016 ESPEN Congress in Copenhagen, Denmark under the theme "Considerations for deciding diagnostic criteria for malnutrition". Representatives of the four largest global PEN-societies gave short presentations to highlight issues relevant to consensus building.

4.1. ESPEN – "Is staging of malnutrition a way forward – insights one year after the launch of the ESPEN Consensus Statement"

Professor Tommy Cederholm summarized the diagnostic criteria ESPEN launched in 2015 [4] and listed the constructive criticism and questions that have been raised. Many perceive the criteria as overly restrictive and so they are concerned that reimbursement may be jeopardized, especially in those countries where reimbursement is currently given for less restrictive criteria. Other issues that have been raised include difficulty with assessment of malnutrition in obese patients, and the limited availability of body composition measurements for assessing fat free mass.

Within ESPEN a grading system for malnutrition has been discussed, similar to what is used for kidney failure and pressure ulcers, and thus this approach would encompass a range of malnutrition severity. To overcome the current difficulties to assess muscle mass in routine clinical settings, it has been suggested to use arm/leg anthropometry, grip strength or other strength measures as proxies for muscle mass. Professor Cederholm also introduced the etiology-based scheme of malnutrition diagnoses that was recently published in the ESPEN Guidelines on Terminology and Definitions of Clinical Nutrition [7] (Fig. 1). This scheme emphasizes the role of pathophysiology in the diagnosis of malnutrition and the importance of distinguishing between disease-related malnutrition (DRM) with inflammation (e.g. due to cancer), DRM without inflammation (e.g. due to dysphagia) and malnutrition without disease (e.g. starvation) [7].

4.2. ASPEN – "Diagnostic criteria for malnutrition: Where do we agree? Are there other variables that warrant examination?"

Professor Gordon Jensen stated that the multiple approaches to defining malnutrition that are currently in use promote widespread confusion. Some approaches lack a fundamental appreciation for the role of inflammation. He highlighted SGA [8] as one of the first to incorporate a metabolic stress of disease component that is a proxy for inflammation. The recent development of etiology-based terminology was noted; i.e. starvation-related malnutrition (without inflammation), chronic-disease-related malnutrition (with mild to moderate inflammation) and acute disease or injury-related malnutrition (inflammation is acute and severe)

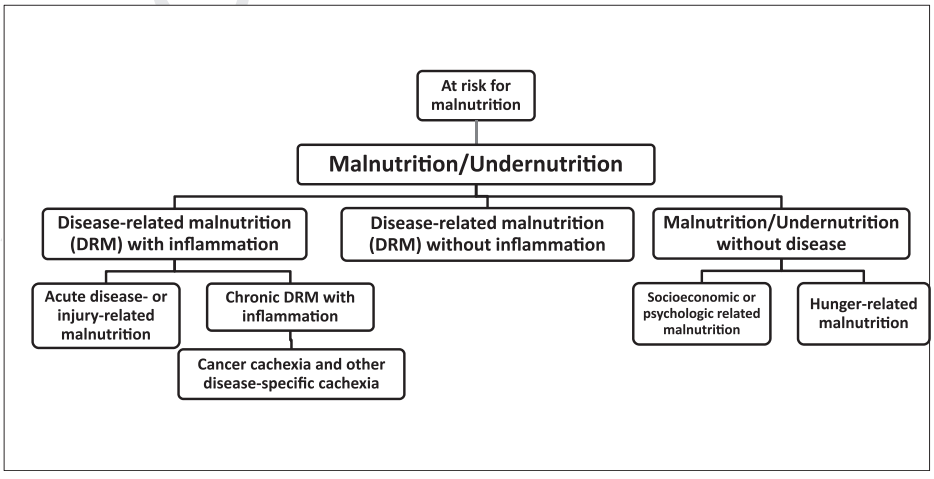

Fig. 1. Diagnoses tree of malnutrition; from at risk for malnutrition, basic definition of malnutrition to etiology-based diagnoses (from [7]).

Please cite this article in press as: Cederholm T, Jensen GLTo create a consensus on malnutrition diagnostic criteria: A report from the Global Leadership Initiative on Malnutrition (GLIM) meeting at the ESPEN Congress 2016, Clinical Nutrition (2016), http://dx.doi.org/10.1016/j.clnu.2016.12.001