



ESPEN endorsed recommendation

Diagnostic criteria for malnutrition – An ESPEN Consensus Statement



T. Cederholm ^{a,*}, I. Bosaeus ^b, R. Barazzoni ^c, J. Bauer ^d, A. Van Gossum ^e, S. Klek ^f,
M. Muscaritoli ^g, I. Nyulasi ^h, J. Ockenga ⁱ, S.M. Schneider ^j, M.A.E. de van der Schueren ^{k,l},
P. Singer ^m

^a Departments of Geriatric Medicine, Uppsala University Hospital and Public Health and Caring Sciences, Clinical Nutrition and Metabolism, Uppsala University, Uppsala, Sweden

^b Clinical Nutrition Unit, Sahlgrenska University Hospital and University of Gothenburg, Gothenburg, Sweden

^c Department of Medical, Surgical and Health Sciences, University of Trieste, Trieste, Italy

^d Department of Geriatric Medicine, Carl von Ossietzky Universität, Oldenburg, Germany

^e Department of Gastroenterology, Clinic of Intestinal Diseases and Nutritional Support, Hopital Erasme, Free University of Brussels, Brussels, Belgium

^f General and Oncology Surgery Unit, Stanley Dudrick's Memorial Hospital, Skawina, Poland

^g Department of Clinical Medicine, Sapienza University of Rome, Rome, Italy

^h Department of Nutrition and Dietetics and Department of Medicine, Monash University Central Clinical School, Prahran, Australia

ⁱ Department of Gastroenterology, Hepatology, Endocrinology, and Nutrition, Klinikum Bremen Mitte, Bremen, Germany

^j Department of Gastroenterology and Clinical Nutrition, University Hospital and University of Nice Sophia-Antipolis, Nice, France

^k Department of Nutrition and Dietetics, Internal Medicine, VU University Medical Center, Amsterdam, The Netherlands

^l Department of Nutrition, Sports and Health, Faculty of Health and Social Studies, HAN University of Applied Sciences, Nijmegen, The Netherlands

^m Department of General Intensive Care, Institute for Nutrition Research, Rabin Medical Center, Sackler School of Medicine, Tel Aviv University, Petah Tikva 49100, Israel

ARTICLE INFO

Article history:

Received 27 February 2015

Accepted 3 March 2015

Keywords:

Malnutrition

Nutritional assessment

Body composition

Definition

Consensus

Delphi

SUMMARY

Objective: To provide a consensus-based minimum set of criteria for the diagnosis of malnutrition to be applied independent of clinical setting and aetiology, and to unify international terminology.

Method: The European Society of Clinical Nutrition and Metabolism (ESPEN) appointed a group of clinical scientists to perform a modified Delphi process, encompassing e-mail communications, face-to-face meetings, in group questionnaires and ballots, as well as a ballot for the ESPEN membership.

Result: First, ESPEN recommends that subjects at risk of malnutrition are identified by validated screening tools, and should be assessed and treated accordingly. Risk of malnutrition should have its own ICD Code. Second, a unanimous consensus was reached to advocate two options for the diagnosis of malnutrition. Option one requires body mass index (BMI, kg/m²) <18.5 to define malnutrition. Option two requires the combined finding of unintentional weight loss (mandatory) and at least one of either reduced BMI or a low fat free mass index (FFMI). Weight loss could be either >10% of habitual weight indefinite of time, or >5% over 3 months. Reduced BMI is <20 or <22 kg/m² in subjects younger and older than 70 years, respectively. Low FFMI is <15 and <17 kg/m² in females and males, respectively. About 12% of ESPEN members participated in a ballot; >75% agreed; i.e. indicated ≥7 on a 10-graded scale of acceptance, to this definition.

Conclusion: In individuals identified by screening as at risk of malnutrition, the diagnosis of malnutrition should be based on either a low BMI (<18.5 kg/m²), or on the combined finding of weight loss together with either reduced BMI (age-specific) or a low FFMI using sex-specific cut-offs.

© 2015 Elsevier Ltd and European Society for Clinical Nutrition and Metabolism. All rights reserved.

1. Introduction

Malnutrition due to starvation, disease or ageing can be defined as “a state resulting from lack of uptake or intake of nutrition leading to altered body composition (decreased fat free mass) and body cell mass leading to diminished physical and mental function

* Corresponding author. Tel.: +46 702733192.

E-mail address: tommy.cederholm@pubcare.uu.se (T. Cederholm).

and impaired clinical outcome from disease” [1]. Although this definition is well-accepted, the condition lacks clear and generally accepted diagnostic criteria.

During the famine catastrophes in Africa during the 1960s, WHO brought attention to the medical aspects of starvation [2]. The concepts of kwashiorkor and marasmus were introduced to define a particular protein deficient condition characterized by hypoalbuminemic peripheral edema and ascites, i.e. kwashiorkor, and a particular energy deficient state characterized by severe weight loss due to mainly fat store depletion, i.e. marasmus. This classification did not turn out as relevant for the recognition and diagnosis of malnutrition that was increasingly observed in hospitals in the Western countries during the later decades of the last century. Since depletion is usually a combined deficiency and loss of protein and energy, the general term of protein-energy malnutrition (PEM) became widely accepted [3]. Clinical characteristics used to define PEM have varied over time, but there was never a consensus on diagnostic criteria. Various combinations of clinical, anthropometrical, biochemical and immunological measures were used (e.g. Refs. [4,5]).

The last decades have seen the advent of several malnutrition screening tools that have reached increased acceptance due to their clinical feasibility. These screening tools combine about the same variables, i.e. weight loss, body mass index (BMI), signs of eating difficulties (e.g. appetite loss or reduced food intake) and a grading of on-going disease severity. ESPEN recognizes the following risk screening tools to be used in the hospital, elderly care and community settings; Nutritional Risk Screening 2002 (NRS-2002), Mini Nutritional Assessment-Short Form (MNA-SF) and Malnutrition Universal Screening Tool (MUST) [6]. The major use of these tools is to screen for malnutrition risk. The subsequent clinical actions should be assessment of underlying mechanisms and type of nutritional problems, in order to design personalized nutritional therapies. The diagnostic procedure usually ends there. The reasons for this are many-fold. One may be the imperative to focus on the implementation of the malnutrition risk screening procedures over the past years. Another apparent reason is the lack of consensus over diagnostic criteria. In the absence of such criteria, it is difficult to distinguish the effectiveness and efficacy of nutritional therapies when applied in different phases of the patients decline into malnutrition. The effects of nutritional therapy given at an early stage, before body protein and energy stores have been depleted, might differ as compared to when given at a late stage with overt depletion.

Previous important consensus initiatives have been attempted [7–9], and the outcomes have reflected the complexity of the issue and the difficulties to reaching consensus. It was considered that these results “... may fuel the discussion within the nutritional societies, which will most ideally lead to an international consensus on a definition and operationalism of malnutrition” [7].

There is moreover a confusion of terminology. Malnutrition, protein-energy malnutrition, undernutrition, depletion, wasting, cachexia are some of the terms used to denominate the condition that ensues deficiencies of macro- and micronutrients and catabolism of protein and energy stores due to disease and ageing. The malnutrition-related concepts cachexia [10,11], sarcopenia [11,12] and frailty [13] are today well-established. The current initiative doesn't challenge their definitions.

This statement is aimed at helping clinicians to effectively provide therapeutic nutritional interventions, and accordingly, to document clinically relevant malnutrition, and moreover to facilitate documentation in the Disease Related Group (DRG) and International Classification of Diseases (ICD) systems.

Malnutrition should be recognized as a serious clinical risk factor. In real clinical settings this is not the case, partly due to the

lack of simple and unequivocal diagnostic criteria. It is crucial to reach consensus on diagnostic criteria for malnutrition in order to unify the terminology (e.g. for ICD-10), to enhance the legitimacy of nutritional practices, to improve clinical care and to move the clinical and scientific nutrition field forward. For this purpose the European Society of Clinical Nutrition and Metabolism (ESPEN) appointed a consensus group with a clear mission to provide criteria for the diagnosis of malnutrition.

1.1. *The consensus group objectives*

The primary objective was to reach consensus for simple, clear and generally applicable diagnostic criteria of malnutrition in the sense of energy and protein store depletion. The intention was to provide criteria that are independent from etiologic mechanisms, and that can be used for all patients and in all clinical settings.

Secondary objectives were to try to bring clarity to the nutritional terminology, and to provide a general nutritional disorders concept tree.

2. Methods

2.1. *Design of the delphi process and selection of the expert group*

ESPEN decided in late 2012 to launch the initiative. In January 2013 representatives of more than 40 member countries of ESPEN outlined the initiative and acknowledged the process. An international expert group consisting of experienced clinical scientists was gathered to perform a modified Delphi process. The consensus group participants, i.e. the authors behind this report, were chosen to represent the clinical fields of medicine, surgery, intensive care, oncology and geriatrics.

It was agreed within the group to base the process on open e-mail communications, face-to-face meetings and on open as well as closed ballots within the group. The intention was to maintain the communication at each step until consensus for each milestone (see below) was reached among all participants before the next step was taken. Furthermore, the group agreed to seek the opinions of the ESPEN members before deciding on the statement. Finally, it was decided to perform validation studies of the final statement. This paper reports the process and outcome of the Delphi process, i.e. the consensus based malnutrition diagnostic criteria, while the validation studies are on-going and will be presented separately.

2.2. *Defined milestones of the process*

Overall there were five major milestones defined for the project. These were to

- decide the interrelationship between the screening and the diagnostic process.
- identify the individual criteria that cover the crucial components of the condition for all patients in all settings. For the sake of feasibility, the goal was to use as few criteria as possible.
- decide on whether and how the individual criteria should be combined to provide an expected high specificity of the diagnosis.
- come up with clinically relevant cut-off values based on relevant reference populations for the chosen individual criteria.

Finally, an independent milestone was to decide whether the term of undernutrition or malnutrition is to be preferred.

Download English Version:

<https://daneshyari.com/en/article/5871710>

Download Persian Version:

<https://daneshyari.com/article/5871710>

[Daneshyari.com](https://daneshyari.com)