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Disease related malnutrition: new diagnostic criteria but unchanged prevalence. A call for an improvement of nutritional care

Desnutrición relacionada con la enfermedad: nuevos criterios de diagnóstico pero sin cambios en la prevalencia. Una llamada a la mejora de los cuidados nutricionales

Nutritional status can be assessed according to three aspects. It can be studied whether food intake provides sufficient nutrients for an individual of a given sex, age, weight and height. Body composition reflects, at least partially, the individual´s food intake and assimilation, with an important influence of the usual physical activity performed. The measurement of an individual's functional capacity also reveals his or her nutritional status, because when malnutrition is present, different body functions may be reduced. In children, growth parameters must also be considered.

The application of these three ways of assessing nutritional status in clinical practice is only approximate. There are limitations related to the methodology used in these determinations and to the influences of other variables, systems and diseases. Beyond the experimental setting, it is difficult to know the real nutritional needs of an individual, his or her dietary intake, or the exact nutrient composition of a particular food. Also, the measurement of body composition with reliable direct techniques that analyze body chemical components, rather than indirect techniques that measure properties of the organism, are usually unavailable in the clinical setting. Last but not least, the relationship between food and function is not direct. In addition to dietary intake, physical activity, hormonal, immunological, neurological and psychological systems influence nutritional status.

Regardless of the difficulties intrinsic to the methods of nutritional evaluation, there is a mutual influence between nutritional status and acute or chronic disease, both in the sense of deterioration and improvement. In theory, the definition of malnutrition should be universal, regardless of whether it is due to causes of poverty, war, natural catastrophes, etc., and whether it is due to organic or psychiatric disease (1). The impact of these factors make it difficult to establish diagnostic criteria for what constitutes malnutrition and how they can be accurately measured.

Multiple tools have been developed to estimate nutritional risk (2) and a consensus has been reached on the diagnostic definition of malnutrition (3). Unfortunately, confusion between nutritional risk and established malnutrition is common. However, it is true that multiple studies have shown an association between nutritional risk, and even more so malnutrition, with an increase in comorbidities and complications, as well as in health care costs, compared to well-nourished individuals (4).

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editorial

Despite these difficulties in identifying malnutrition, it is useful to know its prevalence in hospitalized patients due to the consequences just described above. This issue of the journal *Nutrición Hospitalaria* contains an important study of the prevalence of hospital malnutrition in 15 hospitals in northern Spain stratified according to the number of beds and the size of the population in which they are located (SeDREno study) (5). They use a well-established nutritional screening method, Malnutrition Universal Screening Tool (MUST), which is accessible to all participating hospitals, and interestingly, they use the diagnostic criteria for malnutrition established by the Global Leadership Initiative on Malnutrition (3). The authors rightly choose these criteria rather than those defined by the American Society of Parenteral and Enteral Nutrition (6), which are well justified but too complex to be assumed transversally by all health care professionals. In any case, it is unfortunate that in some parts of the study there is confusion between the concept of nutritional risk and the diagnosis of malnutrition.

This study updates the information provided by multiple previous studies, with an excellent methodological design and a larger study population. The mean body mass index was 26.9 ± 5.6 kg/m^2. Interestingly, only 2.8 % had a BMI < 18.5 kg/m^2, but 24.5 % were obese, with BMI > 30 kg/m^2. It is also curious the similarity of the risk of malnutrition according to MUST and the diagnosis of malnutrition according to GLIM: 29.7 %. The authors claim mere statistical chance, but they also report a good kappa index between them ($\kappa = 0.703$). This raises the possibility that the GLIM criteria are redundant with nutritional screening tools, such as MUST. In any case, many clinicians agree that nutritional risk should be a diagnostic category included in the International Classification of Diseases and should be covered by public and private health insurance.

As it has already been observed in the PREDyCES study (7), the SeDREno study has seen a high prevalence of risk of malnutrition (1 in 3 individuals studied) in patients with diabetes and cardiovascular disease. Obesity and metabolic syndrome are commonly associated with these diseases. The findings of malnutrition in these studies may be due either to the existence of extreme poles in diabetes and cardiovascular disease regarding malnutrition and over-nutrition, or to poor performance of the nutritional screening tool or diagnostic criteria for malnutrition.

Although the nutritional screening tool is different in the PREDyCES study and in SeDREno, it can be seen that 10 years after the first study there has been no improvement in the prevalence of disease related risk of malnutrition. This leads us to think that nutritional screening and intervention should be more present in outpatient consultations and to study whether nutritional action in this setting can ensure that the population requiring hospital admission arrives with a lower risk of malnutrition.

While it is true that there are multiple studies on the prevalence of disease-related malnutrition, well quoted by the authors of SEDRENO, there is less information on the positive clinical effect of nutritional intervention and its cost-effectiveness ratio (8,9). As mentioned above, it is not easy to find purely nutritional variables, whose measurement reflects only the nutritional effect of treatment, independent of multiple other factors associated with the evolution of the underlying disease and its treatment. However, these studies are key to convince health care professionals outside the orbit of clinical nutrition, and most especially health policy makers, managers and administrators, that nutritional screening, diagnosis and treatment are effective and clinically and ethically necessary.

The implementation of the research protocol of the SeDREno study has established an important multi-center platform that may approach new research objectives to help substantiate the efficacy of nutritional treatment.

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References

1. Jensen GL, Compher C, Sullivan DH, Mullin GE. Recognizing malnutrition in adults: definitions and characteristics, screening, assessment, and team approach. JPEN J Parenter Enteral Nutr 2013;37:802-7. DOI: 10.1177/0148607113492338
2. van Bokhorst-de van der Schueren MA, Guaitoli PR, Jansma EP, de Vet HC. Nutrition screening tools: does one size fit all? A systematic review of screening tools for the hospital setting. Clin Nutr 2014;33:39-58. DOI: 10.1016/j.clnu.2013.04.008
3. Cederholm T, Jensen GL, Correia MITD, Gonzalez MC, Fukushima R, Higashiguchi T, et al.; GLIM Core Leadership Committee; GLIM Working Group. GLIM criteria for the diagnosis of malnutrition - A consensus report from the global clinical nutrition community. Clin Nutr 2019;38:1-9. DOI: 10.1016/j.clnu.2018.08.002
4. Allison SP. Malnutrition, disease, and outcome. Nutrition 2000;16:590-3. DOI: 10.1016/S0899-9007(00)00368-3

5. Zugasti-Murillo A, Petrina-Jáuregui ME, Ripa-Ciáurriz C, Sánchez Sánchez R, Villazón-González F, González-Díaz Faes Á, et al. SeDREno study — prevalence of hospital malnutrition according to GLIM criteria, ten years after the PREDyCES study. Nutr Hosp 2021;38(5):1016-25. DOI: 10.20960/nh.03638
6. White JV, Guenter P, Jensen G, Malone A, Schofield M; Academy Malnutrition Work Group; A.S.P.E.N. Malnutrition Task Force; A.S.P.E.N. Board of Directors. Consensus statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). JPEN J Parenter Enteral Nutr 2012;36:275-83. DOI: 10.1177/0148607112440285
7. Álvarez-Hernández J, Planas Vila M, León-Sanz M, García de Lorenzo A, Celaya-Pérez S, García-Lorda P. Prevalence and costs of malnutrition in hospitalized patients; the PREDyCES® Study. Nutr Hosp 2012;27:1049-59.
8. Schuetz P, Sulo S, Walzer S, Vollmer L, Stanga Z, Gomes F, et al.; EFFORT trial collaborators. Economic evaluation of individualized nutritional support in medical inpatients: Secondary analysis of the EFFORT trial. Clin Nutr 2020;39:3361-8. DOI: 10.1016/j.clnu.2020.02.023
9. Deutz NE, Matheson EM, Matarese LE, Luo M, Baggs GE, Nelson JL, et al.; NOURISH Study Group. Readmission and mortality in malnourished, older, hospitalized adults treated with a specialized oral nutritional supplement: A randomized clinical trial. Clin Nutr 2016;35:18-26. DOI: 10.1016/j.clnu.2015.12.010