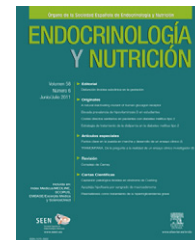




ENDOCRINOLOGÍA Y NUTRICIÓN

www.elsevier.es/endo



LETTERS TO THE EDITOR

Nutritional risk in hospitalized elderly patients[☆]

Riesgo nutricional en pacientes ancianos hospitalizados

We have read the original article by López-Gómez et al.¹ on nutritional risk of elderly patients, and want to make some practical comments on it. From a methodological viewpoint, the study shows a clear bias in patient selection, because it only included patients for whom their treating physicians had requested nutritional assessment and support. Because of this, most patients enrolled were malnourished or at nutritional risk (96.5% using the Nutritional Risk Index [NRI] and 81.3% using the Geriatric Nutritional Risk Index [GNRI]) and were at a moderate or severe risk (94.7% with the NRI and 60.9% with the BNRI).¹ Such bias probably was one of the reasons why no correlation was found between these indices and mean stay or nutrition duration. On the other hand, it would be interesting to know in how many patients actual weight was measured and in how many their weight was estimated for body mass index (BMI) of 22 kg/m², because several estimates (rather than actual data) may be used to calculate GNRI, including estimation of actual weight on the one hand and estimation of ideal weight using the Lorentz formula (not adapted to the Spanish population) on the other, which may have partially accounted for the apparent lack of value of the GNRI in the study sample.

The availability of nutritional risk assessment tools such as NRI and GNRI, based on only 3 parameters such as albumin, actual weight, and standard or ideal weight, is highly attractive, first of all because of its fast implementation (as compared to the 5–15 min required for the Mini Nutritional Assessment [MNA]),² the few parameters to be recorded, and its easy completion. Such indices have, however, limitations for the nutritional assessment of elderly inpatients: (1) the NRI is valid for the detection of surgical risk in the young, rather than in elderly, patients.³ (2) It is not always easy to measure the current weight of acute bedridden patients. (3) Both risk indices include albumin, which is not the best nutritional parameter in elderly patients because their levels decrease 0.8 g/dL by decade from 60 years of

age, may be altered by non-nutritional causes (acute disease, sarcopenia, renal, hepatic or heart failure, nephrotic syndrome, etc.), and are not an early marker of visceral protein reserve⁴ (MNA detects malnutrition risk before significant weight or albumin changes occur).² (4) NRI and GNRI have not been recommended for nutritional risk screening by scientific societies such as the European Society of Parenteral and Enteral Nutrition (ESPEN).⁵

MNA has a high sensitivity (96%) and specificity (98%) and good inter-observer agreement, and is not only valid in a community setting or in nursing homes and long-term facilities, as stated by the authors, but its use has been extended to all kinds of care environments (including primary, home, and hospital care).^{6,7} In addition, MNA does not lose efficacy in elderly patients admitted to hospital or those with acute disease. In fact, low MNA scores in inpatients predict for an unfavorable course (prolonged stay, adverse effects, institutionalization after discharge, increased mortality).⁷ The problem with MNA is that it is less applicable in inpatients as compared to applicability of other nutritional screening methods (66.1% in the Bauer et al. study⁸) because it requires four anthropometric measures (weight, height, arm and calf circumference) and a degree of cooperation from the patient and/or relatives that is sometimes difficult to obtain in acute patients.²

We do not think that the significant correlation of MNA with NRI and GNRI is due to the terms they share, because weight (used to calculate BMI) is the only one of the 18 items of the MNA also used to calculate NRI and GNRI.

From the viewpoint of daily practice in a hospital ward, we doubt that additional calculation of NRI or GNRI provides supplemental information to MNA. If a MNA score ranging from 17 to 23.5 (malnutrition risk) or less than 17 (malnutrition) is found, a detailed dietary history should be obtained, measures should be taken to improve nutritional status (increased energy intake, nutritional supplements, water intake, etc.), and referral to the nutrition department should be considered. In the event of malnutrition (MNA less than 17), other causes of malnutrition should also be investigated (increased metabolic requirements, disease, etc.) and prompt nutritional intervention should be started.⁴ If MNA already assesses nutritional risk and malnutrition, allows for nutritional intervention aimed at MNA areas with lower scores, and is useful for following the course of nutritional status,^{6,7} it is not clear what helpful information regarding nutritional screening and patient intervention is added by the calculation of another supplemental nutritional risk marker such as NRI or GNRI.

[☆] Please cite this article as: Sánchez-Muñoz LA, et al. Riesgo nutricional en pacientes ancianos hospitalizados. Endocrinol Nutr. 2011;58:556–8.

Because of the care burden in hospitalization areas, we think that it is more practical to use a single nutritional screening tool validated for that care setting (hospital) and age group (elderly patients), which may be applied with the available means, and recommended by scientific societies (MNA or Nutritional Risk Score, NRS-2002).⁵

References

1. López-Gómez JJ, Calleja-Fernández A, Ballesteros-Pomar MD, Vidal-Casariago A, Brea-Laranjo C, Fariza-Vicente E, et al. Valoración del riesgo nutricional en pacientes ancianos hospitalizados mediante diferentes herramientas. *Endocrinol Nutr.* 2011;58:104–11.
2. Bauer JM, Kaiser MJ, Anthony P, Guigoz Y, Sieber CC. The Mini Nutritional Assessment—its history, today's practice, and future perspectives. *Nutr Clin Pract.* 2008;23:388–96.
3. Buzby GP, Knox LS, Crosby LO, Eisenberg JM, Haakenson CM, McNeal GE, et al. Study protocol: a randomized clinical trial of total parenteral nutrition in malnourished surgical patients. *Am J Clin Nutr.* 1988;47(2 Suppl.):366–81.
4. Cuesta F, Rodríguez C, Matía P. Valoración nutricional en el anciano. *Medicine.* 2006;9:4037–47.
5. Kondrup J, Allison NSP, Elia YM, Vellas ZB, Plauthy ZM. ESPEN guidelines for nutrition screening 2002. *Clin Nutr.* 2003;22:415–21.
6. Anthony PS. Nutrition screening tools for hospitalized patients. *Nutr Clin Pract.* 2008;23:373–82.
7. Guigoz Y. The Mini Nutritional Assessment (MNA) review of the literature—what does it tell us? *J Nutr Health Aging.* 2006;10:466–85.
8. Bauer JM, Vogl T, Wicklein S, Troegner J, Muehlberg W, Sieber CC. Comparison of the Mini Nutritional Assessment, Subjective Global Assessment and Nutritional Risk Screening (NRS 2002) for nutritional screening and assessment in geriatric hospital patients. *Z Gerontol Geriatr.* 2005;38:322–7.

Luis Angel Sánchez-Muñoz*, Eduardo Mayor-Toranzo, Cristina Rodríguez-Martín

Servicio de Medicina Interna, Hospital Clínico Universitario de Valladolid, Valladolid, Spain

* Corresponding author.

E-mail address: lsanchezmunoz@gmail.com (L.A. Sánchez-Muñoz).

Reply letter to "Nutritional risk in hospitalized elderly patients"☆

Carta de réplica a «Riesgo nutricional en pacientes ancianos hospitalizados»

Sir,

In reply to the letter sent by Sánchez-Muñoz et al. in relation to our article "Nutritional risk in hospitalized elderly patients", we would like to clarify some points.

As regards the methodological limitations pointed out: 1) Sample selection among patients on nutritional support is a known limitation inherent to study design and is recognised as such in the text (page 110, sixth paragraph). 2) The reason for the lack of correlation between risk indices and mean stay is reflected in our article in the same terms as in the Sánchez-Muñoz et al. letter (page 110, third paragraph), but this was not the final objective of the study, which was not designed for this purpose, as is also stated in the text. 3) We could not know whether patient weights were actual or estimated as this was a retrospective study. This was one of the main study limitations, as is also stated in the text. 4) Finally, ideal weight calculated using the Lorentz formula is the weight validated for GNRI, according to Bouillanne et al.¹ While it is true that the Lorentz formula is not adapted for the Spanish population, the study was designed to compare the original formula to NRI.

☆ Please cite this article as: López-Gómez JJ, et al. Carta de réplica a «Riesgo nutricional en pacientes ancianos hospitalizados». *Endocrinol Nutr.* 2011;58:557–8.

With regard to the value of the Mini-Nutritional Assessment (MNA) or nutritional risk indices (NRI/GNRI) to assess hospitalized elderly patients, it should be noted that: 1) The study was designed to assess whether or not GNRI is superior to NRI for predicting complications, rather than to assess whether MNA is superior or inferior to GNRI and NRI. 2) MNA was not fully evaluable in this study because it had only been performed in patients admitted to non-surgical floors (39.8% of patients). 3) In addition, among nutritional tools, MNA is a recognised nutritional status assessment method, NRS-2002 a recognised malnutrition screening system, and nutritional risk indices (NRI/GNRI) are used to predict the development of complications-related malnutrition (rather than to assess nutritional patient status itself). These measures are therefore different but complementary rather than mutually exclusive.

To sum up, because of the study design and the characteristics of these indices, at no time was it intended to state that NRI or GNRI are better than MNA for the detection of malnutrition or for nutritional status assessment. We only stated in our study that, based on the results found and taking its limitations into account, NRI may complement other measures, and so help to predict complications related to malnutrition. These tools require little time when the parameters needed to calculate them (which would have to be measured in any inpatient) are available, and have therefore no negative influence on the burden of care.

Reference

1. Bouillanne O, Morineau G, Dupont C, Coulombel I, Vincent JP, Nicolis I, et al. Geriatric Nutritional Risk Index: a new index