Reviewer's report

Title: Diagnostic performance of the Minimal Eating Observation and Nutrition Form - Version II (MEONF-II) and Nutritional Risk Screening 2002 (NRS 2002) among hospital inpatients - a cross-sectional study

Version: 1 Date: 10 May 2011

Reviewer: Michael Hiesmayr

Reviewer's report:

This paper addresses the important issue of the performance and usability of a new screen tool (questionnaire) to detect malnutrition in patients. This is an important issue because several tools/scoring systems have been intuitively developed based on expert knowledge but not formally validated.

The clearly stated research question is to compare the new MEONF-II questionnaire and a recently proposed malnutrition screening score NRS-2002 with MNA considered as the golden standard.

The methods would benefit from clarifications and a formal statistical analysis.

Your conclusions should be more critical about the methods used, the mind-set behind each score and the potential selection and measurement bias potentially caused by the cut-off used. The easiness to understand and use is very important for wide-spread use, please give more weight.

Major compulsory revisions:

1. Please include in the description of the MNA that the cut-off values for MNA have been defined based on albumin values (low value 3.0, high value 3.5 and grey zone in between. This certainly surprising fact should also be addressed in the discussion as any comparison with the performance of the golden standard MNA with the use of the proposed cutoff may only indicate whether low albumin levels can be detected. This may be largely population dependent and very unreliable in surgical and acutely ill patients. It may be more valid to use the full scale of the scoring system for performance assessment.

2. Please clearly state inclusion and exclusion criteria for the sample used.

3. MNA with cutoff 17 and 24 has three groups. How did you combine the groups to allow an analysis with a 2 by 2 table for sensitivity, ect.

4. What score was given to patients not fulfilling the initial screening of the NRS-2002? In fact it should be not applicable probably.

5. The description of MEONF-II indicated 3 categories (low, moderate, high risk of undernutrition) how have they been combined into 2 categories to calculate sens, spec, ect.

6. Please specify how you define "risk of undernutrition" for each of the scores
7. Please use a formal statistical test if you want to state that one score "outperforms" an other score (discussion para 3 last line). Also for the time needed to complete and the easiness to use.

8. Adapt your conclusions accordingly.

9. Essentially the conclusions appear to be supported by the data but limitations need to be addressed more.

10. Consider the effect of your recruitment procedure on the effect, you addressed well the different perspectives/purpose of the scores, consider the effect of potentially arbitrary cut-off values. MNA, your gold atandard has been developed from SGA + lab values with cut-off based on albumin. Cut-off for NRS-2002 and MEONF II are probably expert decisions (you could specify for MEONF, as the reference from an ESPEN 2010 abstract does not give enough detail. Since the choice of the cut-off has a large effect on your results I would really like to have this issue addressed. You addressed the difference in training between reference 8 and this manuscript this an appropriate thought.

11. The enormous difference in the proportion of detected patient at risk needs stronger emphasis and discussion of the consequences. In some groups (surgery) some scores (NRS 2002) may indentify less than a quarter of those at nutritional risk and potentially easy intervention.

12. Please clarify to which extent patients included overlap between the submitted paper and the recently published in Food and nutrition research: Validity and user-friendliness of the minimal eating observation and nutrition form – version II (MEONF – II) for undernutrition risk screening

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The paper is quoted as reference 8 and shares several more general parts of the text.

Minor essential revisions:
1. Please include a copy of the MEONF II questionnaire as additional material.
2. I suggest to include a table that shows the distribution of patients into the full range of proposed groups for MNA and MEONF-II.
3. Table 1 & 2 87 patients, Table 3 85 patients? Please clarify.

Discretionary revisions:
None

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests.

I have had reimbursement for speaking at industry sponsored Symposia at the ESPEN and ESICM congress from Nestlé who is the copyright owner of MNA.