Reviewer’s report

Title: Do the Malnutrition Universal Screening Tool (MUST) and Birmingham Nutrition Risk (BNR) Score Predict Mortality in Older Hospitalised Patients?

Version: 1 Date: 8 May 2008

Reviewer: Elaine Bannerman

Reviewer’s report:

Major compulsory revisions

This is a prospective study to determine whether nutritional screening and nutritional risk can predict mortality 2.5 years post hospital admission. There are concerns with the design of the study and the lack of control of significant confounders, including diagnosis, age, medication use, place of discharge, readmission, which are likely to be much stronger predictors of mortality. It is unclear why the time period (census date) was chosen.

1. Is the question posed by the authors well defined?

The authors state the need to identify individuals who are at-risk of undernutrition early, to allow for intervention which may potentially improve their outcome. It is unclear why mortality at 2.5 years has therefore been chosen as the primary outcome measure?

More up to date data exists regarding the nutritional status of patients on admission to hospital, and uses the MUST tool to assess status. BAPEN (2008) – Nutrition Screening Week 2007. This should be referred to in the introduction. This includes Scotland specific data and also provides data according to age.

2. Are the methods appropriate and well described?

Greater detail is required for the methods used to determine BMI, including whether height was measured, estimated (using what technique and what equations), recalled etc. It may be that for the sample size, the BMI categories may need to be collapsed. Were assessments carried out by the same observer? Were they trained in administering the screening tool? Were they blinded to the outcomes of the other assessments?

There is concern that there is no consideration of potential confounders including disease status and age and that these are not controlled for in the analyses. Have these data not been collected as part of routine admission?

3. Are the data sound?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

There is a lack of statistical information presented including a measure of dispersion to accompany median values (range, inter-quartile range).
Inclusion of a scatterplot with correlation coefficient to allow interpretation of the association between nutritional status indicators and length of stay would allow greater interpretation of this finding by the reader.

Figures 1 and 2 – require a footnote detailing statistical analyses performed, test statistic and statistical significance. Inclusion of 95% confidence intervals for comparing survival rates for different nutrition scores is required on the graphs and/or in the text.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

There is comment that the MUST tool correctly identifies patients who are at high risk of death but BNR does not. There is comment that the two tools have been developed for use in different patient groups (acute disease versus chronic disease) and thus perhaps why one predicts mortality and the other does not. The sensitivity & specificity of the tools and thus potential misclassification of patients has not been considered. Some comment about the subject’s disease status is needed, in terms of the appropriateness of the use of both tools on all individuals.

Comment about the validity of the nutrition screening tools is very unclear - it is stated that MUST has ‘external validity’ as it predicts mortality? This is not external validity.

There is no reference to the scientific literature in the interpretation of the findings of the study. The findings should be interpreted in the context of existing literature and greater consideration of the application of findings to clinical practice.

6. Are limitations of the work clearly stated?

The lack of control of potential confounders is stated although these are not fully considered in the interpretation of the findings ie. that there are many other factors that are likely to affect mortality, in particular age, disease status, medication use. Existing literature suggests that nutritional status often is a reflection of disease status.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

none

8. Do the title and abstract accurately convey what has been found?

The title does reflect the study.

Abstract – measures of dispersion need to accompany measures of central tendency.

Minor essential revisions

Results – para 2 – need to refer to table 1
9. Is the writing acceptable?
References need checked and spell-checked.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.